

PSD PRELIMINARY DETERMINATION

MeadWestvaco Coated Board, LLC. – Cottonton Sawmill
Cottonton, Russell County, Alabama
Air Permit No. 211-S005-X007

On January 29, 2015, the Air Division received a PSD application from MeadWestvaco (MWV) for the modification of Lumber Kiln No. 4 from batch operation to a continuous dual-path direct-fired lumber dry kiln (66 MMBF/yr). The modified kiln would maintain the existing 34 MMBtu/hr wood-fired suspension burner. A complete application was received on May 28, 2015. This facility is currently a major source under Title V and PSD regulations, and its status would not change after the modification. Air Permit No. X007 would be issued for the proposed kiln pending the resolution of any comments that may be received during the public comment period.

Current Operations

MWV operates a softwood sawmill in Cottonton, Alabama. The significant sources of air pollutants include two (2) 30 MMBtu/hr wood-fired suspension burners that provide direct heat, independently, to two (2) 150 MBF dry kilns; a 22 MMBtu/hr wood-fired suspension burner that supplies direct heat to a 110 MBF dry kiln; a 34 MMBtu/hr wood-fired suspension burner that supplies direct heat to a 150 MBF dry kiln; and a wood residual transfer system with two cyclones. Insignificant emission sources at this facility include a 2,000 gallon diesel fuel tank and various chipping, debarking, sawing, and lumber storage operations.

Proposed Project

MWV proposed the modification of Kiln No. 4 from a batch operation to a continuous dual-path direct-fired lumber dry kiln (66 MMBF/yr). The modified kiln would maintain the associated 34 MMBtu/hr wood-fired suspension burner. The proposed project would increase the annual production through Kiln No. 4 from 38 MMBF to 66 MMBF (roughly a 73% increase). Kiln Nos. 1, 2, and 3 have a combined production limit of 110 MMBF during any consecutive 12-month period to avoid PSD review during previous permitting in 1995 for the original installation of Kiln No. 4. The facility-wide production capacity would increase from 148 MMBF/yr to 176 MMBF/yr. MWV intends to upgrade the sorting and packaging areas to include a planer mill sorter, package maker and strapper following the kiln conversion project. There are no emissions or changes associated with these safety improvement projects.

The proposed project will allow the awaiting green lumber to be conditioned while more lumber is drying. The proposed physical modification would be adding conditioning chambers to each end of the existing kiln and closing the existing kiln roof vents. The kiln would be a counter currently fed lumber dry kiln in which dimensional wood would enter the kiln from both ends. As the wood enters the kiln, it would be slowly heated until it reaches the center, where most of the drying would take place. As the wood moves beyond the center area, it would preheat, or “condition,” the wood entering the kiln from the opposite side. This process minimizes energy use and heat transfer from exiting newly dried wood to incoming green wood. The 34 MMBtu/hr wood-fired suspension burner would be fueled by untreated wood shavings and is equipped with a 2’x2’ square exhaust vent into the kiln. All emissions would exhaust through the open doors at each end of the kiln. There would be no new emission units associated with the proposed project.

Applicability: Federal Regulations

Title V

This facility is considered a major source under Title V regulations because potential emissions for particulate and volatile organic compounds (VOC) each exceed the 100 TPY major source threshold. It is considered a major source of Hazardous Air Pollutants (HAP) due to potential methanol emissions being greater than 10 TPY and combined HAP emissions being greater than 25 TPY. After the project, the facility would remain a major source under Title V regulations.

MWV would be required to submit an application for a significant modification of its Major Source Operating Permit within 12 months of commencing operation of the direct-fired continuous kiln.

Prevention of Significant Deterioration (PSD)

The facility is located in an attainment area for all criteria pollutants, and the facility operations are not one of the listed 28 major source categories. Therefore, the major source threshold of concern is 250 TPY for criteria pollutants. The facility is currently a major source under PSD for VOC.

Lumber Kiln Nos. 1, 2, and 3 (Emission Unit Nos. 001, 002, and 003) are limited to 110 MMBF of cumulative production during any consecutive 12-month period based on an emission rate of 4.21 lb/MBF. Air Permits for these units were issued in 1995 to include this synthetic minor source limit in order to establish this facility as a minor source prior to the installation of Lumber Kiln No. 4 (Emission Unit No. 004). After the addition of Lumber Kiln No. 4, the facility became a major source under PSD. Based on the netting analysis (provided in Appendix A), the potential emissions for VOC from the project would exceed significant emission rates. Therefore, MWV is required to conduct a PSD review for VOC.

Sources subject to PSD must satisfy the following requirements before being allowed to initiate construction:

1. Provide opportunity for public participation in the permitting process relative to the air quality impact the source would have if it were built.
2. Obtain a permit which sets forth emission limitations.
3. Demonstrate that the emissions from the source would not cause or contribute to a violation of the PSD increment or the NAAQS.
4. Apply best available control technology (BACT), which is defined in terms of an emission limitation, based on the maximum degree of reduction of each pollutant which is determined to be technically and economically achievable for that particular source.
5. Analyze the impairment to visibility, soils, and vegetation that might occur as a result of operation of the source.

6. Analyze the air quality impacts projected due to the growth associated with the facility.
7. Conduct any ambient air quality monitoring necessary to determine the effect of the emissions on air quality.

Public Participation

In order to satisfy the public participation requirement, a copy of the preliminary determination (this engineering analysis and the air quality dispersion modeling analysis) and the permit applications will be sent to the public repository(ies) for at least 30 days of public review. Notification will also be made in a local newspaper of general circulation. After the 30-day public comment period and within 5 days of the PSD permit issuance, the final determination will be made available at the public repository(ies) for 14 days of public review.

BACT Determination

During a PSD review, new and modified sources must be assessed for Best Available Control Technology, or BACT, if the net emissions increase is significant. BACT is an emission limit based on the maximum pollutant reduction achievable considering energy, economic, and environmental impacts. BACT is determined on a unit by unit, pollutant by pollutant basis. The BACT limit can be no less stringent than any applicable New Source Performance Standard (NSPS), National Emission Standard for Hazardous Air Pollutants (NESHAP), or other applicable standard. No applicable NSPS has been promulgated for continuous direct-fired lumber dry kilns.

BACT must be determined for VOC emissions from the proposed lumber kilns. MWV utilized the “top-down” approach for the BACT analysis. This approach considers the most stringent control option available and a determination of its technical feasibility for the emission unit in question. If the option is not rejected, the applicant must analyze the option based upon economic, environmental, and energy considerations. Below are the five basic steps of a top-down BACT review procedure as identified by the US EPA in the March 15, 1990, Draft BACT Guidelines:

- Step 1. Identify all control technologies
- Step 2. Eliminate technically infeasible options
- Step 3. Rank remaining control technologies by control effectiveness
- Step 4. Evaluate most effective controls and document results
- Step 5. Select BACT

Step 1. Identify all control technologies:

MWV examined the feasibility of the following five control technologies: adsorption (carbon), biofiltration, condensation, thermal oxidation, and proper maintenance and operating practices.

Adsorption

Regenerative adsorption systems typically include two or more fixed adsorption beds. One or more of the beds is operated in adsorption mode, while the remaining bed(s) are operated in regeneration mode. The media used can range from activated carbon, organic resin polymers, and inorganic materials such as zeolite. An induced draft fan may be required in order to force the VOC-laden gas through the adsorption bed, where the VOC molecules are bound to the pore surface of the adsorbent. Once the adsorbent bed becomes completely saturated with VOC, it must be regenerated. The VOC concentration of exhaust gas will increase, producing what is known as “breakthrough”. A thermal swing or vacuum process is required to regenerate the adsorbent bed once breakthrough has occurred. Adsorbents capture VOC from dilute concentration streams and release the VOC into a high concentration stream which can be controlled using another VOC destruction or recovery technology. Once the regeneration process has been completed, the adsorbent bed is available to capture VOC in another adsorption cycle. Adsorption is most effective at VOC inlet concentration levels ranging from 400 to 2,000 parts per million by volume (ppmv). Adsorbents and the associated follow-up control devices are typically capable of achieving greater than 95% control efficiency of VOC.

Biofiltration

Biofiltration uses off-gases that contain biodegradable organic compounds which are vented under controlled temperature and humidity through a biologically active material (biofilm), containing a population of microorganisms immobilized on a porous substrate. The air stream passes through the biofilter, which causes the VOC contaminants in the air stream to transition from the gaseous phase to the liquid phase of the biofilm. Once the VOC contaminants pass into the liquid phase, they become susceptible to the complex oxidative process of the microorganisms inhabiting the biofilm.

Condensation

A condenser is operated by lowering the temperature of the exhaust stream to a temperature at which the target VOC reaches the saturation point of the gas. This allows the VOC to condense on the surface of the condenser tubes to be collected for recycling or disposal. Three specific components can be attributed to the efficiency of a condenser as a sole add-on control device: the heat capacity and temperature of the inlet exhaust stream, the heat transfer characteristics of the condenser, and the outlet temperature of the exhaust gas exiting the condenser. The control efficiency of a condenser is based on the outlet temperature and the inlet concentration of VOC in the exhaust stream, therefore the efficiency can range from 50-99%.

Thermal Oxidation

Thermal oxidation refers to the complete, gas phase combustion of VOC to carbon dioxide and water vapor. Oxidation is achieved by heating the VOC exhaust in the presence of oxygen. Supplemental fuel is almost always required to maintain minimum combustion conditions. A regenerative thermal oxidizer (RTO) typically operates at a final oxidation

temperature between 1400°F and 1500°F. A regenerative catalytic oxidizer (RCO) operates in the same manner as a regenerative thermal oxidizer except that it utilizes a catalytic material rather than ceramic material in the packed bed. This allows for the destruction of VOC at a lower oxidation temperature of approximately 800°F. Depending on the system requirements and the characteristics of the exhaust, an RTO is able to achieve a VOC removal efficiency of greater than 95%, and an RCO is able to achieve a VOC removal efficiency of greater than 98%.

Proper Maintenance and Operating Practices

Proper maintenance and operating practices are comprised of work practice and operational standards and recordkeeping and reporting requirements. The establishment of these good operating practices is intended to minimize VOC emissions from the kilns to the extent practicable. This method involves no add-on pollution controls. The application stated that manufacturer specifications should be consulted and followed when outlining the operating characteristics and routine maintenance schedule.

Step 2. Eliminate technically infeasible options:

Adsorption

The kiln's exhaust contains water vapor that has evaporated from the wood during the drying process (at or near 100% relative humidity). At high moisture contents, the water vapor and VOC compounds would compete with each other for the adsorption media's active sites; therefore, greatly reducing the capture efficiency of the control device. Therefore, this control technology would not be a feasible means of VOC control. ADEM concurs with this determination.

Biofiltration

The microorganism used in biofiltration typically cannot survive temperatures greater than 104°F. The temperature of the kiln's exhaust is typically 207°F. MWV has determined that biofiltration is a technically infeasible option. ADEM concurs with this determination.

Condensation

Condensation requires that the exhaust leaving the kilns be cooled to a low enough temperature to allow for the VOC to go from a gas phase to liquid phase. The VOC in the kilns' exhaust stream are primarily terpenes; therefore, the temperature at which these compounds would start to become liquid is 0°F. At that temperature, the water vapor in the exhaust stream would freeze, which would clog the unit. Therefore, this control technology would not be a feasible means of VOC control. ADEM concurs with this determination.

Thermal Oxidation

The low temperature and the high moisture content of kilns' exhaust streams would likely make an RTO a technically infeasible method of VOC control for the kilns. While an RCO

could operate at lower temperatures than an RTO, the temperatures of the kiln's exhaust streams would likely still be too low for this option to be feasible and the particulate matter and other contaminants in the exhaust stream would cause a loss of catalytic activity. Based on the reasons stated above and the fact that there are no lumber dry kilns reported in the RBLC utilizing thermal oxidation, MWV does not concede that thermal oxidation is a feasible option for VOC control for the kilns. However, for conservatism, MWV has evaluated the economic feasibility of an RTO.

Proper Maintenance and Operating Practices

Proper maintenance and operating practices is a technically feasible option for minimizing VOC emissions and is considered further in the BACT determination.

Step 3 Rank remaining control technologies by control effectiveness:

Rank	Control Technology	Potential Control Efficiency
1	Thermal Oxidation (RTO)	98%
2	Proper Maintenance and Operating Practices	Base Case

Step 4. Evaluate most effective controls and document results:

Regenerative Thermal Oxidation (RTO)

The estimated cost of controlling VOC emission utilizing an RTO would be approximately \$12,000 per ton of VOC removed. The cost is related to the high moisture content, low temperature of the exhaust gas, and increases the need for natural gas consumption. There would also be associated energy and environmental impacts from the use of natural gas, including additional pollutant emissions such as NO_x from natural gas combustion. MWV has determined that thermal oxidation would not be considered a cost effective control option for BACT and would have associated additional impacts. ADEM concurs with this determination.

Proper Maintenance and Operating Practices

Proper maintenance and operating practices can effectively minimize VOC formation and would be considered BACT for the kilns.

Step 5. Select BACT:

MWV proposed the following emission level as BACT:

Pollutant	BACT Determination	BACT Emission Limit	Equivalent Emissions
VOC	Proper Maintenance and Operating Practices	4.21 lb/MBF, as VOC	139 TPY (based on a maximum capacity of 66 MMBF/yr)

A search of EPA RACT/BACT/LAER Clearinghouse indicated that no facilities are utilizing add-on controls for dry kilns, and the proposed VOC emission limit of 4.21lb/MBF (as VOC) is similar to other BACT determinations for continuous kilns in the wood products industry.

The Air Division concurs that proper maintenance and operating practices and an emission limit of 4.21 lb/MBF (as VOC) represents BACT for the proposed kilns.

In addition to the BACT emission limit, the following manufacturer recommended maintenance and operating practices would be incorporated into the permit as enforceable conditions:

Proper Operating Practices

- Within six (6) months of issuance of Temporary Authorization to Operate the continuous direct-fired kiln (CDK), the Permittee shall develop and submit to the Air Division a site-specific operating and maintenance plan for the CDK. The plan shall identify key parameters to be monitored which are related to VOC emissions from the kiln and the frequency and/or averaging period of the monitoring. Upon Air Division concurrence with the plan, the Permittee shall begin implementation of the proposed monitoring and recordkeeping.

Proper Maintenance

- Daily routine maintenance to include cleaning debris from around kiln and pusher tracks;
- Weekly inspection of kiln fan shafts and grease as necessary;
- Quarterly routine maintenance to include greasing and lubricate fan motors and bearings;
- Semiannual routine maintenance to include checking and retightening (if needed) motor mount bolts and taper lock bolts;
- Annual routine maintenance to include the following:
 - Inspect controller cabinet for dust and small debris;
 - Inspect all sensors for proper operation;

- Inspect pre-modification intake vent lids to assure they are sealed closed;
- Inspect all spring loaded baffles for tightness and wear. Clean and repair or replace as necessary.

Modeling

Since the project would be significant for only VOC emissions, no modeling is required. Air toxics modeling was performed by All4 Inc. (on behalf of MWV) using the AERSCREEN dispersion model for non-criteria pollutants that have a Threshold Limit Value (TLV). All pollutants modeled had a PTE greater than 0.1 lb/hr. For further discussion of the results of this modeling, see the attached Air Dispersion Modeling Analysis from the Meteorological Section of the Planning Branch (Appendix B).

Additional Impacts

An additional impact analysis assesses the impacts of air, ground, and water pollution on soils, vegetation, and visibility caused by any increase in emissions of any regulated pollutant resulting from the modification under review and from associated growth. The depth of the analysis depends on existing air quality, the quantity of emissions, and the sensitivity of local soils, vegetation, and visibility in the source's impact area. MWV addressed the impacts of the proposed kiln expansions and production increase with respect to growth, soils and vegetation, and visibility.

It is estimated that the increase in production at the MWV Cottonton Sawmill can be met with very few, if any, additions to the current mill workforce and any additional demand on housing or public services would be minimal. There would be additional trucking required to deliver logs and ship lumber. The new kiln would affect an area of previously disturbed soil and no existing vegetation. The effects to visibility on the nearby area are expected to be negligible. The facility is not located within 100 km of any PSD Class I Area and no Class I area impact analysis would be required.

Applicability: State Regulations

Particulate Matter

The CDK would be subject to the State particulate matter emission standards for process industries as provided in ADEM Admin. Code r. 335-3-4-.04(1). The process weight would consist of the amount of wood fuel burned in the 34 MMBtu/hr burner. As the burner would supply direct heat to the kiln, it would not be considered "fuel burning equipment", and therefore would not be subject to ADEM Admin. Code r. 335-3-4-.03(1).

Visible Emissions

The proposed kiln and ancillary upgrades would be subject to the State visible emission standards of ADEM Admin. Code r. 335-3-4-.01(1), which states that no air emission source may emit particulate of an opacity greater than 20% (as measured by a six-minute average) more

than once during any 60-minute period and at no time shall emit particulate of an opacity greater than 40% (as measured by a six-minute average). Based on the design and operating practices of the proposed kiln and ancillary upgrades, these sources would be expected to be able to comply with these standards.

Sulfur Dioxide

Since the burner for the proposed continuous kiln provides direct heat, it would not be subject to the State SO₂ emission standard for fuel burning equipment found in ADEM Admin. Code r. 335-3-5-.01(1).

Emission Testing and Monitoring

I recommend that no emission testing be required for the proposed kilns at this time since it is expected that the kilns would be able to comply with the proposed BACT limitation. Testing for continuous kilns is not easily conducted, and there are no emission control devices. I also recommend that no emission testing be required for ancillary upgrades at this time since these upgrades are being made for safety purposes and are not expected to have any air emissions. If emission problems are observed in the future from these emission sources, testing may be required at that time.

To ensure that the maximum capacity of the proposed CDK is not exceeded, MWV would be required to calculate the kiln production on a monthly and 12-month rolling total basis, to be updated within ten (10) days of the end of each calendar month.

Recordkeeping and Reporting

Recordkeeping

MWV would be required to maintain records of its actions taken to comply with its proper maintenance and operating practices. These records shall be maintained on-site in a permanent form readily available for inspection.

Reporting

MWV would be required to submit a Semiannual Monitoring Report for the continuous kilns, which would include a certification that all proper maintenance and operating practices were accomplished as required during the reporting period, and if not, describe the date and reason any required action was not accomplished:

Conclusions and Recommendations

This analysis indicates that the facility would meet the requirements of all applicable federal and State rules and regulations. Therefore, I recommend that MeadWestvaco – Cottonton Sawmill be issued Air Permit No. X007 for the proposed modification of Dry Kiln No. 4 to a continuous direct-fired dry lumber kiln, pending the resolution of any comments received during the 30-day public comment period. I further recommend that no Air Permit be required for the upgrades to

the Planer Mill Sorter, Package Maker, or Strapper since there will be no increase to air emissions by these upgrades.

Rachael Broadway
Chemical Branch
Air Division

_DRAFT_____

Date

DRAFT

Appendix A
Netting Analysis

MeadWestvaco Coated Board--Cottonton Sawmill

Permit No. 211-S005-X007

PSD Permit Application Netting Analysis

Pollutants	PM	PM ₁₀	PM 2.5	NOX	SO2	CO	VOC
Source							
#4 Kiln	9.90	10.30	8.90	5.30	1.50	13.10	73.60
Planer Mill	12.10	10.30	6.00				
Hammer Mill	2.90	2.70	2.30				
Baseline Actual Emissions (TPY)	24.90	23.30	17.20	5.30	1.50	13.10	73.60
Baseline Period	May-12	May-12	May-12	May-12	June-12	May-12	May-12
	April-14	April-14	April-14	April-14	May-14	April-14	April-14

Source	PM	PM ₁₀	PM 2.5	NOX	SO2	CO	VOC	Unit Status
CDK #4	12.82	15.82	14.02	12.00	2.83	10.33	138.94	Modified
Planer Mill	15.23	12.95	7.62					Affected
Hammer Mill	3.71	3.53	2.97					Affected
Potential Actual Emissions (TPY)	31.76	32.30	24.61	12.00	2.83	10.33	138.94	

Summary	PM	PM ₁₀	PM 2.5	NOX	SO2	CO	VOC
Total Project Emission Increases (TPY)	6.86	9.00	7.41	6.70	1.33	0	65.34
PSD Significance Levels	25	15	10	40	40	100	40
PSD Significant?	No	No	No	No	No	No	YES

Appendix B
Air Dispersion Modeling Analysis

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

June 3, 2015

MEMORANDUM

TO: Rachel Broadway *RWB*
Natural Resources Section
Chemical Branch

FROM: Geoff Healan *GH*
Meteorological Section
Planning Branch

SUBJECT: Air Dispersion Modeling Analysis for Mead West, Inc. in Cottonton,
Alabama

Air dispersion modeling has been performed by All4 Consultants in order to assess the impact of emissions of air toxics from a proposed modification to Mead West, Inc. in Cottonton, Alabama. This analysis addresses the impact of increased emissions of volatile organic compounds (VOC's) from the addition of a continuous kiln. As a result, emissions of volatile organic compounds (VOC's) are expected to exceed PSD significance levels.

Meteorological Data

Meteorological data used with the AERSCREEN dispersion model included synthetic worst case meteorological data. Worst case meteorological data was determined using all stabilities and wind speeds.



Air Toxics

All4 used the AERSCREEN model to show that the maximum predicted concentrations for all evaluated pollutants did not exceed the Threshold Limit Value divided by a safety factor (TLV/40). Two doors are located at each end of the kiln where lumber is loaded and unloaded. Two sets of tracks run in each kiln moving towards each other. The doors located at each end of the building are used as exhaust vents. In the analysis, to be conservative, all pollutants were assumed to be emitted through one door, as shown in Table A. The facility was then modeled using each pollutant's potential emission rate. The results were then compared to each pollutant's TLV/40 value, as shown in Table B.

**TABLE A
VOLUME SOURCE PARAMETERS**

SOURCE	HEIGHT (m)	LATERAL DIMENSION (m)	VERTICAL DIMENSION (m)
	2.43	0.71	2.26

**TABLE B
SCREENING MODELING RESULTS**

POLLUTANT	EMISSION RATE (g/s)	MAXIMUM 1 HOUR CONCENTRATION ($\mu\text{g}/\text{m}^3$)	TLV/40 ($\mu\text{g}/\text{m}^3$)	% of TLV/40
Methanol	0.18	8.78	6550.00	0.13
Copper compounds	0.02	0.98	5.00	20
Benzene	0.01	0.49	40.00	1.22

As seen in Table B above, predicted concentrations of all pollutants were below their respective TLV/40 values; therefore, no further modeling was required.

Conclusions

In conclusion, the expected VOC emissions from the proposed modifications at Mead West, Inc. in Cottonton, Alabama are not expected to exceed their respective TLV/40 values.

Appendix C
Permit

AIR PERMIT

PERMITTEE: MEADWESTVACO COATERD BOARD, LLC.
FACILITY NAME: COTTONTON SAWMILL
LOCATION: COTTONTON, RUSSELL COUNTY, ALABAMA

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
211-S005-X007	16.4 MBF/hr Continuous Direct-Fired Lumber Dry Kiln (CDK-4) with 34 MMBtu/hr Wood-Fired Burner

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (2006 Rplc. Vol. and 2007 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (2006 Rplc. Vol. and 2007 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT

**MEADWESTVACO COATED BOARD, LLC
COTTONTON SAWMILL
COTTONTON, ALABAMA
(PERMIT NO. 211-S005-X007)
PROVISOS**

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.
2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.
3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.
4. The Permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.
5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.
6. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants for a period greater than **1 hour**, the person responsible for such equipment shall notify the Air Division within an additional 24 hours and provide a statement giving all pertinent facts, including the duration of the breakdown. The Air Division shall be notified when the breakdown has been corrected.
7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.
8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.
9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

PERMIT NO. 211-S005-X007

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.
11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.
12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.
13. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

- (a) The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
- (b) A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
- (c) A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.
- (d) A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

14. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

PERMIT NO. 211-S005-X007

15. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.
16. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

- (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;
- (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;
- (c) by paving;
- (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

17. Precautions shall be taken by the Permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.
18. The Permittee shall not cause or allow these sources of particulate emissions to discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall these sources discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9.
19. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.
20. The Permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

BACT Requirements

21. The Permittee shall not cause or allow the VOC emissions from the kiln to exceed 4.21 lb/MBF, measured as terpenes (as VOC expressed as terpenes, determined by 40 CFR Part 60, Appendix A, Method 25A).
22. The Permittee shall conduct proper maintenance and operating practices as recommended by the manufacturer, which include but may not be limited to the following:
 - (a) Proper Maintenance Practices
 - i) Conduct daily routine maintenance to include cleaning debris from around kiln and pusher tracks;
 - ii) Conduct weekly inspection of kiln fan shafts and grease as necessary;
 - iii) Conduct quarterly routine maintenance to include greasing and lubricate fan motors and bearings;
 - iv) Conduct semiannual routine maintenance to include checking and retightening (if needed) motor mount bolts and taper lock bolts;
 - v) Conduct annual routine maintenance to include the following:
 - (1) Inspect controller cabinet for dust and small debris;
 - (2) Inspect all sensors for proper operation;
 - (3) Inspect pre-modification intake vent lids to assure they are sealed closed;
 - (4) Inspect all spring loaded baffles for tightness and wear. Clean and repair or replace as necessary.

(b) Proper Operating Practices

Within six (6) months of issuance of Temporary Authorization to Operate the continuous direct-fired kiln (CDK), the Permittee shall develop and submit to the Air Division a site-specific operating and maintenance plan for the CDK. The plan shall identify key parameters to be monitored which are related to VOC emissions from the kiln and the frequency and/or averaging period of the monitoring. Upon Air Division concurrence with the plan, the Permittee shall begin implementation of the proposed monitoring and recordkeeping.

Monitoring, Recordkeeping, and Reporting

23. The Permittee shall maintain records documenting its compliance with the proper maintenance and operating practices required by Proviso 22 of this permit.

PERMIT NO. 211-S005-X007

24. If this kiln should exceed an applicable limit at any time, the Permittee shall notify the Air Division in writing within two working days of determining that the exceedance occurred.
25. The Permittee shall maintain records of total kiln production, including monthly production and 12-month rolling totals. Within ten (10) days of the end of each calendar month, records of the total throughput for the last calendar month shall be recorded and the rolling 12-month total updated.
26. The Permittee shall retain all required records in a permanent form suitable and readily available for inspection for a period of five (5) years from the date of generation of each record.
27. The Permittee shall submit a Semiannual Monitoring Report for this kiln to the Air Division as part of the Semiannual Monitoring Report required by the Permittee's Major Source Operating Permit. This report shall include a certification that all proper maintenance and operating practices were accomplished as required during the reporting period, and if not, describe the date and reason any required action was not accomplished.
28. The Permittee shall submit an Annual Compliance Certification for the kiln to the Air Division as part of the Annual Compliance Certification required by the Permittee's Major Source Operating Permit. This report shall include the following for these kilns:
 - (a) The identification of each term or condition of this permit that is the basis of the certification.
 - (b) The compliance status, whether continuous or intermittent.
 - (c) The method(s) used for determining the compliance status of the source, currently and over the reporting period.
 - (d) Other facts the Department may require to determine the compliance status of the source.

The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

DRAFT
Date