

**South Carolina**

**Department of Health and Environmental Control**

**Bureau of Air Quality**

Final Determination

For

Klausner Holding USA Inc  
Rowesville, Orangeburg County, South Carolina

January 3, 2013

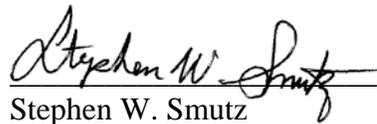
Klausner Holding USA Inc.  
Rowesville, Orangeburg County, South Carolina

Final Determination

This review was performed by the Bureau of Air Quality of the South Carolina Department of Health and Environmental Control in accordance with South Carolina Regulations for the Prevention of Significant Air Quality Deterioration.

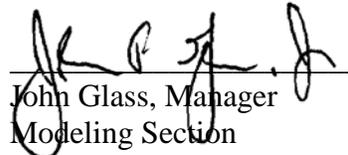
January 3, 2013

Modeling Analysis Reviewed by:



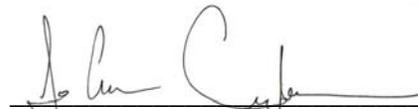
Stephen W. Smutz  
Modeling Section  
Bureau of Air Quality

Modeling Analysis Approved by:



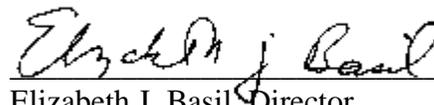
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Approved by:



Elizabeth J. Basil, Director  
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Appendices

Appendix A

Issued Construction Permit 1860-0128-CA

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**I. Time Line (Permitting Action History)**

3/2/2012	BAQ received a PSD permit application from Klausner Holding USA Inc.
3/5/2012	BAQ had a telephone conference with Joe Sullivan of Trinity Consultants on March 5 <sup>th</sup> . BAQ requested the following additional information: <ul style="list-style-type: none"> <li>i. Emissions from the Sawing &amp; Debarking operations.</li> <li>ii. Clarification on the selection of a Dutch Oven boiler design.</li> <li>iii. Speciation of PM/PM<sub>10</sub>/PM<sub>2.5</sub> for the BACT determination.</li> <li>iv. Clarification of the elimination of a regenerative thermal oxidizer as a control technology for CO emissions.</li> <li>v. Clarification of cost analysis for Nitrogen Oxides, CO, and VOC's for the biomass and natural gas boilers.</li> <li>vi. Identification of potentially applicable add-on pollution control technologies for the emergency-use diesel engines.</li> </ul>
3/23/2012	Received completed responses (to the March 5 <sup>th</sup> questions) from Michael Ballenger of Trinity Consultants.
3/28/2012	J. Cunningham sent an e-mail to Ms. Sabine Merkle of Klausner Holding USA Inc. advising Ms. Merkle that the BAQ could accept the PSD Construction Permit application for expedited review.
3/28/2012	J. Cunningham sent an e-mail request to Michael Ballenger of Trinity Consultants for submittal of an electronic copy of the PSD construction application.
3/29/2012	Engineering Services of BAQ mailed a letter to Sabine Merkle, Klausner Holding USA Inc, informing her that BAQ had deemed the application complete on March 28, 2012; the application will undergo a preliminary determination.
3/29/2012	Engineering Services of BAQ mailed out to Mr. Bill Jackson, Air Program Staff, and USDA Forest Service letter informing them that BAQ was in receipt of and was currently reviewing a PSD application from Klausner Holding USA Inc....
3/29/2012	J. Cunningham mailed out to Ms. Catherine Collins, Air Quality Branch, US Fish and Wildlife Service letter informing them that BAQ was in receipt of and was currently reviewing a PSD application from Klausner Holding USA Inc.
4/2/2012	Received electronic copy on disk of PSD application from Michael Ballenger of Trinity Consulting.
4/3/2012	Engineering Services of BAQ mailed out to Mr. Greg Worely of Region IV EPA, letter informing him that BAQ was in receipt of and was currently reviewing a PSD application from Klausner

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	Holding USA Inc. An electronic copy of the PSD application was included as an enclosure.
4/3/2012	J. Cunningham e-mailed questions pertaining to the PSD application to Michael Ballenger for Trinity Consulting.
4/4/2012	J. Cunningham contacted Michael Ballenger for Trinity Consulting to discuss, via telephone, questions pertaining to the PSD application which were e-mailed on 4/3/2012.
4/4/2012	J. Cunningham sent e-mail to Sabine Merkle of Klausner Holding USA Inc. and Michael Ballenger of Trinity Consultants as a follow-up to the 4/4/2012 telephone conversation with Michael Ballenger of Trinity Consultants, which involved questions about the PSD application.
4/4/2012	J. Cunningham received a telephone call from Federal Land Manager Catherine Collins of US Fish & Wildlife Service requesting a synopsis of in the project emissions and distance of proposed project to any Class I Area(s).
4/4/2012	J. Cunningham sent e-mail correspondence to Federal Land Manager Catherine Collins of US Fish & Wildlife Service in response to the 4/4/2012 telephone call.
4/4/2012	J. Cunningham received e-mail from M. Ballenger with response to question No. 1 as asked in the April 4, 2012 email.
4/5/2012	J. Cunningham received e-mail from M. Ballenger with response to question No. 2 as asked in the April 4, 2012 email.
4/6/2012	J. Cunningham received e-mail from M. Ballenger with response to questions No. 3 and 12 as asked in the April 4, 2012email.
4/6/2012	J. Cunningham received e-mail from M. Ballenger with response to question No. 4 as asked in the April 4, 2012 email.
4/11/2012	J. Cunningham received a series of four (4) e-mails from M. Ballenger with responses to questions No. 5, 6, 7, 8, and 9 as asked in the April 4, 2012 email.
4/18/2012	J. Cunningham received e-mail from M. Ballenger with responses to questions No. 10, and 11 as asked in the April 4, 2012 email.
4/24/2012	J. Cunningham sent an e-mail to M. Ballenger acknowledging BAQ receipt of the Volume II (Modeling) disk.
5/2/2012	Engineering Services of BAQ received email correspondence from Bill Jackson USDA Forest Service
5/8/2012	J. Cunningham sent e-mail to M. Ballenger with question regarding the type of dutch oven which the biomass boilers are equipped with.
5/8/2012	J. Cunningham received e-mail from M. Ballenger with responses to questions as asked in the May 8, 2012 e-mail and telephone call, regarding the following: <ul style="list-style-type: none"> <li>i. Clarification on the type of dutch oven for the biomass boilers</li> <li>ii. PM/PM<sub>10</sub>/PM<sub>2.5</sub> removal efficiencies for the Biomass</li> </ul>

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	Boilers. iii. Provided a reference for NO <sub>x</sub> control technology (SNCR).
5/9/2012	J. Cunningham sent first draft of permit to Klausner.
5/15/2012	J. Cunningham received e-mail response from M. Ballenger addressing BAQ May 15 <sup>th</sup> question (via telephone), which was in regards to the natural gas boiler NO <sub>x</sub> limit as compared to RBLC entries.
6/5/2012	J. Cunningham sent e-mail to M. Ballenger requesting an official response to BAQ question regarding boiler NO <sub>x</sub> limit as compared to RBLC entries.
6/12/2012	J. Cunningham sent e-mail to M. Ballenger requesting the facility address greenhouse gas emission – output based limit.
6/13/2012	J. Cunningham received e-mail from M. Ballenger which had a pdf attachment containing comments to the draft construction permit.
7/10/2012	J. Cunningham received e-mail from M. Ballenger which had a pdf attachment addressing greenhouse gas emissions output based limit for the biomass and natural gas boilers.
7/11/2012	BAQ and Klausner had a meeting (on-site at the DHEC building, room 2290) to discuss Klausner comments to the draft permit. In attendance at the meeting were: Liz Basil, Steve Mc Caslin, Jo Anna Cunningham, Sabine Merkle of Klausner, Thomas Mende of Klausner and, Michael Ballenger of Trinity Consultants. During the meeting BAQ requested additional information related to the biomass boiler (performance data) and, drawings/schematics of the control device (baghouse). During the meeting, Klausner indicated that they would supply additional information as requested by BAQ.
7/26/2012	J. Cunningham telephoned M. Ballenger to inquire about the status of Klausner submitting the additional information as requested by BAQ and as agreed upon by Klausner which they said they would provide in the July 11 <sup>th</sup> meeting.
7/30/2012	J. Cunningham received a telephone from M. Ballenger indicating that Klausner was in the process of obtaining the additional information as requested by BAQ and as agreed upon by Klausner which they said they would provide in the July 11 <sup>th</sup> meeting.
8/8/2012	J. Cunningham telephoned M. Ballenger to obtain an update of when Klausner would be able to submit the information as discussed in the July 11 <sup>th</sup> meeting with BAQ and Klausner.
8/9/2012	J. Cunningham received an e-mail from M. Ballenger with a pdf attachment, addressing BAQs request for additional information as requested by BAQ and as agreed upon by Klausner in the July 11 <sup>th</sup> meeting with BAQ and Klausner.
8/23/2012	J. Cunningham telephone M. Ballenger to request a telephone conference with Klausner to discuss BAQ's proposed BACT

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	limits for project.
8/24/2012	J. Cunningham received a telephone call from M. Ballenger confirming Klausner's availability for a telephone conference and also to indicate that up-dated BACT limits and cost analysis for particulate matter for the biomass boilers would be forthcoming.
8/24/2012	J. Cunningham received an e-mail from M. Ballenger with a pdf attachment which contained up-dated BACT analysis and cost analysis for particulate matter for the Biomass boilers.
8/31/2012	J. Cunningham sent second draft of permit to Klausner
9/7/2012	J. Cunningham received an e-mail from M. Ballenger with a pdf attachment which contained Klausner's comments to the second draft of the permit.
9/12/2012	J. Cunningham sent an e-mail to Klausner and M. Ballenger regarding Klausner intent to submit revised potential to emit and proposed BACT limit for EU013.
9/21/2012	The BAQ placed the PSD Preliminary Determination and PSD Construction Permit No. 1860-0128-CA on public notice for a thirty-(30) day comment period by publication in <i>The Times and Democratic</i> newspaper in Orangeburg, South Carolina. All appropriate Federal and State Officials were notified.
10/16/2012	BAQ received an e-mail with correspondence attachment requesting a fifteen (15) day extension of the public comment period for the Klausner PSD construction project.
10/18/2012	J. Cunningham received an e-mail from M. Ballenger with a pdf attachment which contained Klausner's comments to the draft permit which was submitted for public notice on September 21, 2012.
10/22/2012	Public notice period was extended to November 5, 2012 due to requests from the public.
11/9/2012	The BAQ placed on public notice Hearing of a Draft Air Permit in the publication - the Times and Democratic newspaper in Orangeburg, South Carolina. All appropriate Federal and State Officials were notified of a public hearing.
12/13/2012	DHEC, BAQ held a Question and Answer session from 6:30 – 7:30 PM at the Roquemore Auditorium Building R of the Orangeburg Calhoun Technical College Brandt located at 3250 St. Matthews Road in Orangeburg, SC. At 7:30 PM the BAQ conducted a Public Hearing in the same location. Oral and written comments were received during the hearing.
12/20/2012	The Public Notice period ended for this PSD Construction Permit at 5:00 PM.
01/03/2013	The BAQ issued a Final Determination and Construction Permit No. 1860-0128-CA for Klausner Holding USA Inc.

## **II. Introduction**

**A.** On March 2, 2012 Klausner Holding USA Inc. (Klausner) submitted a Prevention of Significant Deterioration (PSD) application to construct a lumber production facility (lumber mill) which will be a greenfield site located on approximately 248 acres near Rowesville, South Carolina. The facility will operate up to 8,760 hours per year (continuous operation), and at full-scale operations the mill will have a maximum annual production of 700 million board-feet per year (MMBF/yr). The proposed Orangeburg mill will include log storage and processing; saw mill operations; sorter line operations; biomass-fired hot water heaters (biomass boilers); natural gas fired hot water heaters (boilers); drying kilns; planer mill operations; lumber loadout; miscellaneous support equipment (i.e. emergency engines); and insignificant activities (i.e. diesel storage tanks).

The proposed plant will be a major source with respect to the Title V (Part 70) Operating Permit Program, due to potential emissions of criteria pollutants and hazardous air pollutants (HAPs) in excess of the major source thresholds (100 tpy for criteria pollutants, 10 tpy for individual HAP, 25 tpy for combined HAP). The facility will be required to submit a Title V permit application within 12-months of commencement of operation.

### **B. Regulatory Applicability**

This project is subject to the following standards in S. C. Regulation 61-62.5 and Federal standards:

- Standard No. 1 *Emissions from Fuel Burning Operations*
- Standard No. 2 *Ambient Air Quality Standards*
- Standard No. 3 *Waste Combustion and Reduction*
- Standard No. 4 *Emissions from Process Industries*
- Standard No. 5.1 *Best Available Control Technology (BACT)/Lowest Achievable Emission Rate (LAER) Applicable To Volatile Organic Compounds* (State only regulation)
- Standard No. 7 *Prevention of Significant Deterioration*
- SC Regulation 61-62.6 *Control of Fugitive Particulate Matter*
- SC Regulation 61-62.7 *Good Engineering Practice Stack Height*
- SC Regulation 61-62.60 *South Carolina Designated Facility Plan and New Source Performance Standards*
- 40 CFR 60 *Standards of Performance of New Stationary Sources, Subpart Db, Standards of Performance for Industrial Commercial – Institutional Steam Generating Units*
- 40 CFR 60 *Standards of Performance of New Stationary Sources, Subpart Dc, Standards of Performance for Small Industrial Commercial – Institutional Steam Generating Units*
- 40 CFR 60 *Standards of Performance of New Stationary Sources, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*
- SC Regulation 61-62.63/40 CFR 63 *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories, Subpart A General Provisions*

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- SC Regulation 61-62.63/40 CFR 63, Subpart DDDD - *National Emission Standards for Hazardous Air Pollutants (NESHAP): Plywood and Composite Wood Products*
- SC Regulation 61-62.63/40 CFR 63, Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*
- SC Regulation 61-62.63/40 CFR 63, *National Emission Standards For Hazardous Air Pollutants For Source Categories, Subpart ZZZZ*, National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines
- SC Regulation 61-62.70 *Title V Operating Permit Program*
- 40 CFR 52 *Approval And Promulgation Of Implementation Plans*, Section 52.21 *Prevention Of Significant Deterioration Of Air Quality*

**III. Significant Emission Rates**

As shown in Table IV-1, this project exceeds the significant threshold as defined under PSD for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, CO, VOC, and CO<sub>2e</sub> emissions.

<b>Table IV-1. Klausner Holding USA Inc. – PSD Applicability Analysis</b>			
<b>Pollutant</b>	<b>Controlled Emissions Increase</b>	<b>PSD Significant Threshold</b>	<b>Significant Increase?</b>
	<b>TPY</b>	<b>TPY</b>	
PM	92.0	25	Yes
PM <sub>10</sub>	61.0	15	Yes
PM <sub>2.5</sub>	50.0	10	Yes
SO <sub>2</sub>	27.0	40	No
NO <sub>x</sub>	180.0	40	Yes
CO	455	100	Yes
VOC	1,340.0	40	Yes
Lead	0.05	0.6	No
CO <sub>2e</sub>	99,597	75,000	Yes
H <sub>2</sub> SO <sub>4</sub>	0.97	7.0	No

#### **IV. Final Determination**

On September 21, 2012, the Bureau of Air Quality (BAQ) made a preliminary determination that the Klausner Holding USA Inc (Klausner) facility may be constructed if the emission limitations and conditions outlined in Draft PSD Construction Permit No. 1860-0128-CA are met. This draft construction permit was included as Appendix D of the Preliminary Determination. The Statement of Basis that contains explanations of the permitting actions was included as Appendix E of the Preliminary Determination. The 30-day Public comment period started on September 21, 2012 and was originally scheduled to end on October 20, 2012. On October 16, 2012 the BAQ received correspondence, via e-mail, from Carl Roberts, Jr. of Haynsworth, Sinkler, Boyd, P.A. Attorneys and Counselors at Law on behalf of Mitchell Scott, Scott Woodland, LLC, Dick Elliott, 3E Land Co., and Ferman Brody, Brody Land Co. LLC requesting a fifteen (15) day extension of the public comment period. BAQ granted the extension request. The public comment period was extended 15 days and was scheduled to end on November 5, 2012. BAQ received several requests for a public hearing. A question and answer session followed by a public hearing for the Klausner PSD construction permit, was held on December 13, 2012. The notice of public hearing started November 9, 2012 and ended on December 20, 2012. The public comment period for the draft Klausner PSD construction permit ended on December 20, 2012.

Comments were received from Klausner, United States Environmental Protection Agency (EPA), South Carolina Wildlife Federation, South Carolina Coastal Conservation League, and the general public during the public comment period (9/21/2012-12/20/2012). These comments are addressed in the Comments and Responses - Section (V). No comments were received from the, the Federal Land Manager (FLM), during the public comment period.

On January 03, 2013 the BAQ made a final determination that the Klausner facility proposed project may be approved provided the emission limitations and conditions outlined in Construction Permit No. 1860-0128-CA are met. The Appendix A of this Final Determination contains a copy of the final issued construction permit.

## V. Comments and Responses

The following is the SC Department of Health and Environmental Control's (DHEC) Bureau of Air Quality (Department) response to the comments made and issues raised during the formal comment period held September 21, 2012, through October 20, 2012, then extended until November 05, 2012, a public hearing held on December 13, 2012, with the final comment period closing on December 20, 2012, regarding the draft construction permit for Klausner Holding USA, Inc. (Klausner or "facility") in Rowesville, Orangeburg County. The written comments received regarding the draft permit are available for viewing at the SC DHEC Columbia office located at 2600 Bull Street, Columbia, SC 29201, or on the SC DHEC webpage <http://www.scdhec.gov/environment/baq/PermittingDecisions>, or hardcopies can be requested by contacting our Freedom of Information Office at (803) 898-3817.

1. **Size/Availability of Natural Resource/Sustainability** – Several comments were received regarding the availability and sustainability of natural resources to support a lumber mill of the proposed size.

**Response:** The Department recognizes that the sustainability of natural resources is an important issue. However, in making a determination on whether or not to issue an air permit, we cannot dictate the size of the facility or the type or amount of materials used at a facility's operation as long as the air quality requirements are met. We reviewed the information supplied by the facility, the EPA and the public to determine if the air emissions resulting from the facility's processing of these materials meet all air quality standards. These standards are designed to protect public health and welfare.

Although the issue of sustainability is not a deciding factor in the air permit decision, Klausner has assisted in addressing this concern. Klausner states that they have commissioned three proprietary studies from industry-recognized consulting and international firms as well as large forest owners. Klausner further states that these studies have "intensively studied the Forest Inventory and Analysis data, conservatively adjusted the data for methodology limitations and have compared this data with on-the-ground surveys and actual timber sales. These studies have all come to the same conclusion namely that the existing timber resource and its usage in the past and in the future provide for sufficient resources. This demand for the resource will be created in an area much larger than the immediate procurement area. Additional demand in one area of the Southeast creates a ripple effect throughout the entire region as competitors shift their procurement area."

2. **Additional Studies are Needed** - Comments were received stating that current information indicated the wood shed may not support a 700 million board feet per year sawmill. Other comments indicated that a wood supply study is being conducted to understand if the woodshed could support the proposed project.

**Response:** The Department's Environmental Protection Fees regulation establishes time schedules for timely action on permit applications for construction permits. Therefore, the Bureau of Air Quality may not hold a permit application indefinitely when a facility has submitted all the required information and the Department has reviewed such information as well as information

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from the public and determined the project can comply with the applicable air regulatory requirements. The permitting decision must be based on the technical review and the regulatory requirements in place at the time of the Department's review.

3. **Volatile Organic Compounds (VOC) Emissions** – A comment was received regarding the large amount of VOC emissions.

**Response:** Ninety seven percent (97%) (which represents the majority) of the VOC emissions from the facility are generated by the drying kilns; the remaining VOC emissions are generated from fuel combustion in the boilers. According to SC Regulation 61-62.1, the potential emissions are based on equipment operating at maximum capacity, 8760 hours per year (24 hours per day, 7 days per week, and 52 weeks per year). The drying kilns' actual VOC emissions during normal day-to-day operations are expected to be lower than the potential emissions calculations due to downtime for maintenance and/or lower lumber demand. Industrial facilities seldom are able to operate non-stop for the entire year.

The Department also conducted a Best Available Control Technology (BACT) analysis and air quality impacts analysis on the drying kilns and the boilers. To determine BACT, we evaluated federal and state air requirements, Prevention of Significant Deterioration (PSD) permits issued to similar sources in other states and other Department-issued PSD permits for new and existing sources. The BACT analysis determined that best work practice standards and good operating practices ensure VOC emissions are minimized.

VOC emissions can contribute to ozone formation, which was reviewed for the air quality impacts analysis. Ozone is formed by chemical reactions between VOC and nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight. In the Southeastern United States, there is an excess of VOC in the ambient air due in part to natural sources in the environment. Therefore, in this region, the concern for ozone formation is based on increases in NO<sub>x</sub> emissions. Based on the NO<sub>x</sub> emissions from this project, it is estimated that this project will have minimal impact on overall ozone formation within the surrounding area and should not cause an exceedance of the ozone standard. Impacts from NO<sub>x</sub> are also addressed in nitrogen dioxide (NO<sub>2</sub>) modeling. The results of this modeling indicate that NO<sub>2</sub> emissions are less than allowed by the National Ambient Air Quality Standards. Additionally, the permit requires (as BACT) the installation and operation of a selective non-catalytic reduction control device on the wood boilers to reduce NO<sub>x</sub> emissions.

4. **Truck Traffic** – Comments were received regarding the impacts from increased truck traffic, including the safety concerns for existing roads and bridges due to the increased volume of truck traffic.

**Response:** The number of trucks traveling to and from the facility is estimated to be 462 trucks per day. Emissions from mobile sources are regulated by the U.S. Environmental Protection Agency (EPA) under the authority of the Clean Air Act. The Department does not have the authority to regulate truck traffic on the public roads. Additionally, the EPA's permitting guidance states that a facility is not required to include the growth of vehicle emissions in their modeling for the National Ambient Air Quality Standards.

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Klausner has stated that they are working with Orangeburg County to address traffic related issues. The Orangeburg County Development Commission (OCDC) is developing a plan for road improvements, which include access roads to the facility property and a turn lane. This plan will require review and approval of the S.C. Department of Transportation. For more information about the road plans, please contact Gregg Robinson of the OCDC toll free at 1.800.761.OCDC (6232).

**5. Dust** – Comments were received regarding impacts from dust associated with the facility.

**Response:** The Department does regulate fugitive emissions (dust) from the equipment, any non-enclosed operations (such as storage piles) and from roadways owned and/or controlled by the facility. The permit requires the facility's roadways to be paved and/or treated (such as water sprays) to minimize dust. The facility must also develop and implement a Best Management Practices (BMP) plan to ensure fugitive dust emissions are minimized. The BMP requires the facility to identify fugitive emission sources, detail what steps will be taken to minimize emissions, record any excessive dust events and take corrective action to mitigate emissions during any excess fugitive emission episode.

**6. Noise** – Comments were received regarding noise that may be created by the facility. A commenter stated that a nearby existing facility was noisy.

**Response:** The Department does not have any noise regulations and therefore no authority to regulate or base a permit decision on noise levels. However, excessive noise levels that are not usual for a site should be reported to the DHEC regional office. This could be an indication that equipment is not operating properly. The DHEC regional office has been informed of the noise complaint regarding the existing facility. Orangeburg County does not have a noise ordinance in place at this time.

It should be noted the Klausner property will be approximately 112 acres. The production area will encompass approximately 100 acres of the total (112 acres). The production areas will be located in the southern part of the property's footprint. The majority of the process equipment is to be located indoors. Due to the southern location of the processes and maintaining the natural landscape buffer, noise from the plant should be minimized. Klausner has stated that most of the noise generated from sawmills is from the sorting operations and that the type of sorter they intend to use will reduce noise generated from the facility.

**7. Impacts on Air Quality, Wildlife, Soils and Vegetation** – Comments were received regarding the facility's impact on air quality, wildlife, soils and vegetation in the area.

**Response:** In order to receive an air permit, the facility must demonstrate that they are in compliance with applicable air quality standards set by the Environmental Protection Agency (EPA) and DHEC. The Clean Air Act requires the EPA to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national ambient air quality standards. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare,

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including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. The EPA has set these National Ambient Air Quality Standards (NAAQS) for six principal pollutants, which are called "criteria" pollutants: particulate matter (PM, PM<sub>10</sub> and PM<sub>2.5</sub>), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), ozone, carbon monoxide (CO) and lead. The NAAQS are reviewed every 5 years and updated as necessary so that concerns regarding the health of sensitive individuals and protection of welfare are incorporated into air quality standards. Klausner has demonstrated through air dispersion computer modeling that the maximum pollutant concentrations are below these ambient standards.

This project also triggered a Prevention of Significant Deterioration (PSD) review. The PSD regulation further protects air quality by requiring that new major sources comply with the increment standards, which are additional, more stringent, air quality standards that limit the maximum allowable increase in concentrations of PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>2</sub>. The facility must also consider the impacts from other facilities and background concentrations as well as their own maximum emissions in determining compliance with these ambient standards. The PSD regulation also requires an additional impacts analysis to address any potential harm to soil and vegetation at the facility fence line and beyond into the community. Klausner conducted this additional impacts analysis, comparing Klausner's modeling results to the NAAQS secondary standards as well as to EPA screening levels designed to assess possible damage to plants, soils, and animals. The results of the modeling analysis were below both the secondary NAAQS standards and the EPA screening levels, indicating that operation of the proposed facility is not expected to cause harm to the soil, vegetation, and animals in the surrounding environment.

The permit requires stack testing, monitoring of pollution control devices, fuel restrictions, continuous opacity monitoring, and recordkeeping and reporting to ensure the facility will meet all regulatory requirements.

In response to the comment received on the impacts to the deer and turkey populations in an area that will be largely clear-cut, a document by the Clemson Cooperative Extension titled, *Forest Wildlife Management Handbook Responses of Wildlife to Clearcutting and Associated Treatments in the Eastern United States* was reviewed. In summary it says, "This review of published scientific literature strongly indicates that clearcutting can be compatible with many wildlife species. In the studies we examined, clearcutting enhanced the quality, quantity, and availability of food and cover for white-tailed deer, moose, black bear, rabbit, hare, most game birds, all early successional songbirds, and several rodents. Snags and logging slash left after clearcutting benefited cavity nesting birds, raptors, and many amphibians and reptiles."

8. **Impact on the Edisto River and Associated Wetlands** – Comments were received regarding the impact on the Edisto River and associated wetlands.

**Response:** DHEC's Bureau of Air Quality has the responsibility to review the air quality impacts as specified in our state and federal air quality regulations. Klausner performed an additional impacts analysis as required by PSD that indicates the proposed facility's air emissions should not cause harm to the vegetation, soils, and animals in the environment surrounding the

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facility (please see response 7 above). Although other, non-air permits may be required for this facility, those permits are not required for the issuance of an air construction permit.

Klausner has stated that there will be no wells or industrial wastewater discharge points. The production processes at the facility are “closed-loop” and any water generated is recycled back into the process. The supply water and return waste water which will be used in the office areas will be provided by Orangeburg Public Utilities and regulated in accordance with the Orangeburg Public Utilities requirements. Klausner has also stated they have no intent to disturb wetlands.

Prior to any land disturbance, Klausner must apply for coverage under the South Carolina National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Construction Activities (Construction General Permit). This permit requires the development of a Stormwater Pollution Prevention Plan intended to control sediment during the construction of the facility. The permittee is required to implement the plan and provide qualified individuals in inspect the facility each week. For a copy of the NPDES Construction General Permit, please visit: <http://www.scdhec.gov/environment/water/swater/docs/CGP-permit.pdf>

After construction has been completed and the facility is ready to go into operation, Klausner is required to apply for coverage under the South Carolina NPDES General Permit for Stormwater Discharges Associated with Industrial Activities (Industrial General Permit). As with the Construction General Permit, the facility is required to develop a Stormwater Pollution Prevention Plan to identify potential sources of pollution that may enter stormwater that discharges from the facility and then implement control practices and good housekeeping measures to reduce or eliminate pollution. The facility must then continue to implement the Stormwater Plan and update it based on site conditions. In addition, the facility will be required to monitor their stormwater discharges for pollutants identified in the permit. They must inspect the site and the outfalls into the nearby stream. For a copy of the NPDES General Permit, please visit: <http://www.scdhec.gov/environment/water/docs/scr000000.pdf>.

For additional information on either the NPDES Construction General Permit or NPDES Industrial General Permit, please contact Jill Stewart with DHEC’s Bureau of Water at (803) 898-0439 or [jill.stewart@dhec.sc.gov](mailto:jill.stewart@dhec.sc.gov).

9. **Impact of chemical run off into the Edisto River** – A comment was received regarding air pollution and run off of any chemicals into the Edisto River.

**Response:** The facility is subject to state and federal requirements to comply with the PSD air construction permit and, as required by the regulation, has undergone a BACT review and an air impact analysis. The results of the air impact analysis indicate the facility will not cause or contribute to a violation of any national air standard.

In regards to the run off of chemicals into the Edisto River, Klausner is also required to apply for coverage under the South Carolina NPDES General Permit for Stormwater Discharges Associated with Industrial Activities (except construction) or submit a No Exposure

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Certification. The NPDES permit regulates the discharge of contaminants into a surface water.

10. **Odor** – A comment was received regarding odor on the N Edisto River.

**Response:** There are no state or federal odor regulations. However, the Department's regional offices investigate citizen complaints, including odor complaints. The presence of odor does not necessarily signal the presence of dangerous air pollution. Many air pollutants have an odor threshold far below the level that would cause harm. The Department encourages the commenter to contact the regional office whenever the odor is detected so that they can investigate and potentially locate the cause.

11. **Quality of Life** - Comments were received regarding impact on the quality of life for residents in the surrounding areas.

**Response:** A community's quality of life can be impacted both positively and negatively by a variety of factors. While the Department cannot base its permit decision on these factors, some of them, such as noise and odor, are addressed in this document (please refer to the comments regarding noise, odor and being a good neighbor). The Department's permit decision is based on the Department's technical review and the applicable air regulatory requirements in place at the time of the Department's review. These air quality requirements are protective of human health and welfare.

12. **Domestic and foreign real estate markets** - A comment was received regarding the impacts when domestic and foreign real estate markets recover.

**Response:** The Bureau of Air Quality can only assess whether or not the applicant has demonstrated that federal and state air quality standards can be met for the project. We do not have the authority to consider domestic and foreign real estate markets. Should any existing sawmill choose to increase their capacity, an air permit review will be required and that facility must demonstrate the expansion can meet all applicable air standards. Any new facility wanting to operate in South Carolina will have to meet the same requirements. The Bureau of Air Quality is primarily responsible for ensuring the National Ambient Air Quality Standards are met in South Carolina. If these standards are not met, then more stringent air quality requirements may be required.

13. **Permit Condition 5.b.4** – A comment was received from the EPA regarding the format of the BACT particulate matter (PM) limit and the footnote regarding the PM limits. The EPA requested the permit reflect the more stringent PM limit first and footnote the less PM stringent limit.

**Response:** The correct condition number referred to by the EPA comment was actually 5.B.8. At the time the draft permit was put on notice there was uncertainty on what limits would be required by the EPA's Maximum Achievable Control Technology (MACT) boiler rule (Boiler MACT). The permit contained a footnote on the PM BACT limit for the biomass boilers that stated whatever limit was in place at the time of boiler startup would apply to the

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biomass units. The EPA requested that we arrange the permit to reflect the more stringent PM limit first and footnote the less PM stringent limit. The end result of this request would not have changed the PM limits, only how they were listed in the permit. The Department agreed with this change. However, on December 20, 2012, the EPA's Boiler MACT reconsideration rule was signed. Therefore, there is no longer a need for the footnote and additional PM limits. The permit has been revised to include the applicable PM requirements from the Boiler MACT as signed. The applicable filterable PM limit will be 0.0032 pounds per million Btu heat input. The permit requires the facility to meet all applicable requirements of the rule, including testing, monitoring, recordkeeping and reporting. Please see revised condition 5.b.8 and Part 7 of the permit.

14. **Boiler MACT Compliance** - A comment was received regarding compliance with the March 21, 20112 Boiler MACT.

**Response:** The EPA signed the reconsidered Boiler MACT rule on December 20, 2012. As stated in the draft permit and in the preliminary determination, the permit shall be revised to reflect the more stringent PM (filterable) limit, either the limit in the final reconsidered rule or the limit established in the preliminary determination (0.015 pounds per million Btu input). The permit has been revised to include the applicable PM requirements from the Boiler MACT as signed on December 20, 2012. The applicable filterable PM limit will be 0.0032 pounds per million Btu heat input and will be considered as the BACT PM limit. Klausner must meet this limit, and will achieve compliance through additional fields in the electrostatic precipitator (ESP) PM control device. The permit requires the facility to meet all applicable requirements of the rule, including testing, monitoring, recordkeeping and reporting. Please see revised condition 5.b.8 and Part 7 of the permit.

15. **Air Quality Impacts from Vehicle Emissions** - A comment was received questioning whether vehicle emissions traveling in and out of the site should be treated as part of the facility emissions due to the scale of the project, thereby possibly triggering a BACT analysis, an air quality analysis and an additional impact analysis.

**Response:** An air permit addresses and limits emissions from stationary sources (fixed plants); it does not include emissions from vehicle traffic. Mobile source emissions are excluded from consideration in the PSD permitting process. However, motor vehicles and engines are regulated by the EPA under the Clean Air Act, Title II-Emission Standards for Moving Sources. The EPA sets standards for the tailpipe emissions, efficiency standards and fuel purity.

16. **Air Quality Impacts from Carbon Dioxide Emissions** - A comment was received concerning increases in carbon dioxide (CO<sub>2</sub>) emissions due to the disturbance of soils in the logging process, depletion of CO<sub>2</sub> absorbing trees and vehicle traffic to and from the facility. The commenter stated that the additional impact analysis required in the PSD regulation could include potential impacts from these activities

**Response:** Carbon dioxide (CO<sub>2</sub>) is a greenhouse gas (GHG) pollutant and was reviewed as part of this PSD permit. GHG emissions from soil disturbance, depletion of trees, and vehicle

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traffic were not considered as part of this permit. The BACT analysis is specific to the emission source, such as the boilers. Because it is source specific, BACT does not take into account GHG emissions from any emission sources that may be generated outside the plant itself.

The additional impact analysis did not include GHG emissions. EPA stated in the GHG permitting rules and the March, 2011, “PSD and Title V Permitting Guidance for Greenhouse Gases” that addressing GHG emissions in the additional impact analysis is not necessary. This is because there is no ambient standard for CO<sub>2</sub> or other greenhouse gases, climate change modeling can’t quantify impacts caused from a specific permit, and the “...BACT analysis is the best technique that can be employed at present to satisfy the additional impacts analysis...”

As stated above, although CO<sub>2</sub> was not included in the additional impacts analysis, BACT was applied to the natural gas boilers and the biomass boilers. Efficient boiler design and good combustion practices were determined to be BACT. The permit requires a thermal efficiency test initially and every two years and the development and implementation of an Operations and Maintenance Manual which specifies proper operation and repair of the boilers. The permit also specifies BACT emission limits for each boiler. These requirements center around energy efficiency, which the EPA has stressed is BACT for GHGs.

17. **Other Environmental Impacts** – Comments were received regarding other environmental impacts in addition to the air quality.

**Response:** Whenever possible, the Bureaus of Air Quality, Water Quality and Land and Waste Management coordinate public participation efforts when permitting a facility. Klausner is in the process of evaluating if other permits through DHEC will be necessary; however, at this time, the facility has not filed for any other permits through DHEC. A stormwater construction permit will be required for land disturbance. The facility will be required to obtain a stormwater permit or a No Exposure Certification for Industrial Activities. DHEC’s Bureau of Water will review all the water quality and discharge permit applications that may be required by the facility.

Additionally, Klausner has stated that the production process does not generate any waste. The production process utilizes 100% of the raw materials. DHEC’s Bureau of Land and Waste Management will review all waste disposal applications that may be required by the facility.

Although other permits may be required for this facility, those permits are not required for the issuance of an air construction permit. The Department’s Environmental Protection Fees regulation establishes time schedules for timely action on permit applications for construction permits. Therefore, the Department may not hold a permit application indefinitely when a facility has submitted all the required information and the Department has reviewed such information as well as information from the public and determined the facility can meet all applicable air quality requirements. In accordance with Section 48-1-100(A) of South Carolina Pollution Control Act, the Department must issue a permit if an applicant submits an application that meets all applicable Department standards.

**18. On-Site Mobile Equipment** - A comment was received about the number of fork lifts (100) and diesel engines (500) which will be operating on-site at the proposed lumber mill.

**Response:** Klausner has stated that the number of forklifts operating on-site will be significantly less (approximately 20 forklifts) than the number indicated in the comment received. Also, diesel engines are regulated (based on their size and use) by the EPA under the authority of the Clean Air Act.

**19. Good Neighbor** - Comments were received concerning Klausner's intention to be a good neighbor regarding the well-being and safety of the St. John AME church parishioners, children and the surrounding community.

**Response:** While there are no air quality regulations that address these quality of life issues, the permit does contain requirements such as limits on emissions, initial and periodic stack testing and control device monitoring that ensure the facility will be constructed and operated in a manner that complies with the air quality standards which are protective of human health and welfare. Klausner has stated they will be a good neighbor to the community, including being certified with the Programme for the Endorsement of Forest Certification Schemes (PEFC) which relates to sustainable forest management and by operating the mill to International Organization for Standardization (ISO) standards.

**20. Full Environmental Assessment** - A comment was received regarding/suggesting a full environmental assessment of the cumulative impacts of a lumber operation the size of the proposed lumber mill.

**Response:** The Department does not have the legal jurisdiction to conduct a full environmental assessment of an applicant's construction application for the air permit process. As stated earlier, whenever possible, the Bureaus of Air Quality, Water Quality and Land and Waste Management coordinate public participation efforts when permitting a facility. The Department's air permit decision is based on the Department's technical review of an applicant's application and the air regulatory requirements in place at the time of the Department's review.

**21. Effect on business if proposed lumber mill ceases operations** – A comment was received regarding the effect on businesses in the area if the proposed lumber mill is constructed and later ceases operations.

**Response:** The Bureau of Air Quality can only assess whether or not the applicant has demonstrated that federal and state air quality standards can be met for the proposed project. The Department is responsible for ensuring the National Ambient Air Quality Standards are met in South Carolina. If these standards are not met, then more stringent air quality requirements may be required

**22. General Opposition and Support** - The Department received general comments both supporting and opposing the issuance of a permit for this facility.

**Response:** Title 48 of the SC Code of Laws, Section 48-1-100, states that “If, after appropriate public comment procedures, as defined by Department regulations, the Department finds that the discharge from the proposed outlet or source will not be in contravention of provisions of this chapter, a permit to construct and a permit to discharge must be issued to the applicant.” The Department cannot make permitting decisions based on community approval or disapproval of the company/facility. The Department does not make permit decisions based on the number of individuals or groups that support or oppose a project. The Department’s decision is based on the Department’s technical review of an applicant’s application, information from the public and the air regulatory requirements in place at the time of the Department’s review. The Department welcomes and appreciates all comments made regarding the Klausner permit.

## VI. Summary of Revisions

### Revision to permit condition 5.B.1 as indicated by *italics*:

BAQ has revised condition 5.B.1 to clarify the periods when the ESP shall be operational and to define startup/shutdown.

The ESP(s) shall be in place and operational whenever processes controlled by the ESP(s) are running, *except* during periods of *startup/shutdown*, ESP malfunction or mechanical failure.

*Each startup period shall be defined as when the boiler exhaust temperature reaches 275 °F or shall not exceed 10 hours, which ever occurs first. Each shutdown period shall not exceed 6-hours.*

### Revision to permit condition 5.B.2 as indicated by *italics*:

DHEC revised condition 5.B.2, Standard 1 Opacity limit, to clarify that the continuous opacity monitoring system (COMS) shall be operational at all times. This revision was made to ensure that the facility will be in compliance with the opacity limit as specified, and the BACT limit for PM/PM<sub>10</sub>/PM<sub>2.5</sub> and, (condition 5.B.8) at all times, including periods of startup and shutdown.

*The continuous opacity monitoring system (COMS) shall be operational at all times, including periods of startup/shutdown, when the emission source is operational.*

### Revision to permit condition 5.B.8 as indicated by *italics*:

The March 2012 application indicates in order to avoid condensation and particulate agglomeration on the collector electrodes, startup of the ESP will occur when the boiler exhaust temperature reaches 275 °F. Based on this technical information, BAQ has revised condition 5.B.8 to clarify the periods when the ESP shall be operational.

The ESP(s) shall be in place and operational whenever processes controlled by the ESP(s) are running, *except* during periods of *startup/shutdown*, ESP malfunction or mechanical failure.

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*Each startup period shall be defined as when the boiler exhaust temperature reaches 275 °F or shall not exceed 10 hours, which ever occurs first. Each shutdown period shall not exceed 6-hours.*

The number of planned startups shall not exceed three, approximately ten-hour periods in a calendar year. The number of planned shut downs shall not exceed three, approximately six-hour periods in a calendar year. The actual number of startup and shut down periods shall be minimized. Each startup or shutdown shall be recorded in a written log or electronically and maintained on-site.

Revision to permit condition 5.B.8 as indicated by *italics*:

As discussed in the Preliminary Determination and as footnoted in the draft permit the BACT PM limit would change if the reconsidered boiler MACT was issued and was more stringent. The boiler MACT was signed on December 20, 2012 and it will become BACT for filterable particulate matter, for each of the biomass boilers. The permit condition 5.B.8 has been revised to reflect the filterable particulate matter limit established in the final boiler MACT as follows: filterable particulate matter limit for each biomass boiler (*0.0032 lb/MM Btu*) of heat input.

Revision to permit condition 5.B.9 to define startup/shutdown as indicated by *italics*:

The SNCR shall be in place and operational whenever processes controlled by the SNCR are running, *except* during periods of *startup/shutdown*, SNCR malfunction or mechanical failure.

*Each startup period shall be defined as when the boiler exhaust temperature reaches 275 °F or shall not exceed 10 hours, which ever occurs first. Each shutdown period shall not exceed 6-hours.*

## **Appendix A**

**Issued Construction Permit 1860-0128-CA**