Paper Machine System Project Application

Packaging Corporation of America – Valdosta, GA

November 2018

Submitted by:

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Submitted to:

Georgia Department of Natural Resources
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1. INTRODUCTION

Packaging Corporation of America (PCA) owns and operates a Kraft pulp and paper mill in Valdosta, Georgia (Valdosta Mill or Mill). The Mill operates under Title V Operating Permit (TVOP) No. 2631-185-0001-V-03-0, which became effective February 22, 2017. The Mill is a major source as defined by the Federal operating permit program (40 CFR Part 70) and the Federal New Source Review (NSR) program (40 CFR Part 52). PCA is submitting this application for physical modifications to the Valdosta Mill's Paper Machine System (Emissions Unit ID No. G014) and to revise the Mill's current TVOP condition that limits the Mill's paper production capacity. In addition, the Mill is requesting to incorporate the revisions to 40 CFR Part 63, Subpart MM, which became effective October 11, 2017, to ensure compliance by the Subpart MM compliance date of October 11, 2019. The Mill is also requesting to remove the Package Boiler from the Mill's TVOP because the it is a rental unit that has not been brought onsite for service in several years.

PCA is proposing to make the following modifications to the Paper Machine System:

- Upgrade the headbox;
- Upgrade the pulsation dampening (PD) stock feed tank and/or upgrade to low pulse hydrofoil assemblies for the three existing Bird screens;
- Upgrade the dilution control header and dilution water supply pump.

With this application, the Mill is proposing to modify the Paper Machine System and increase its production capacity to approximately 662,300 oven-dried tons per year (ODT/yr), which exceeds the current annual paper production limit of 595,400 ODT/yr on a 12-month rolling total basis. Therefore, the Mill proposes that the current paper production limit be removed from the TVOP and that the new production capacity of 662,300 ODT/yr be incorporated as the new limit.

1.1 APPLICATION ORGANIZATION

This permit application includes the following sections:

- **Section 2 – Mill and Project Description:** provides an overview of the Mill's current configuration and operations, as well as a detailed description of the proposed project.

- **Section 3 – Project Emissions Inventory:** provides a description of the proposed project's emissions and the emissions calculation methodologies and assumptions used to determine Prevention of Significant Deterioration (PSD) applicability.

- **Section 4 – Regulatory Applicability:** summarizes Federal and State of Georgia air quality rules potentially applicable to the Mill due to the proposed project. It includes a discussion of the applicability or non-applicability of each rule identified.

- **Section 5 – Best Available Control Technology (BACT) Demonstration:** summarizes the BACT evaluations conducted to determine technically and economically feasible pollution control techniques.

- **Section 6 – Air Quality Modeling Analysis:** outlines the technical approach used to conduct the Class I and II significant impact level (SIL), National Ambient Air Quality Standards (NAAQS), PSD increment, and air toxics evaluations. This section also summarizes the results of the air quality modeling evaluation.

- **Appendix A – Emissions Inventory Supporting Information:** contains supporting documentation tables for the calculation of emissions rates from the emissions units affected or modified by the proposed project.

- **Appendix B – BACT Analysis Supporting Information:** contains supporting documentation tables for the BACT analysis.

- **Appendix C – Air Quality Modeling Supporting Information:** contains supporting documentation for the air quality modeling analysis.

- **Appendix D – GEOS Forms:** contains the applicable Georgia Environmental Protection Division (GEPD) Online System (GEOS) forms.

2. MILL AND PROJECT DESCRIPTION

This section of the application includes background information on the Valdosta Mill and the proposed project. A description of the geographic and topographic setting of the Mill is also provided.

2.1 MILL LOCATION

The Valdosta Mill is located in Clyattville, Georgia, which is approximately 16 kilometers (km) south of Valdosta, Georgia. Situated in the southern portion of Lowndes County, the Mill is about six km from the Florida border. A Mill location map is provided in Figure 2-1. The geographical coordinates for the approximate center of the processing area of the Mill are:

- Universal Transverse Mercator (UTM) Easting (meters): 279,320
- Universal Transverse Mercator (UTM) Northing (meters): 3,397,975
- UTM Zone: 17
- North American Datum (NAD): 1983
- Longitude (degrees, minutes, seconds): 83° 18’ 11.2” W
- Latitude (degrees, minutes, seconds): 30° 41’ 39.3” N

The area surrounding the Valdosta Mill is generally flat with minor changes in elevation. The Mill elevation is 200 feet above mean sea level (amsl).

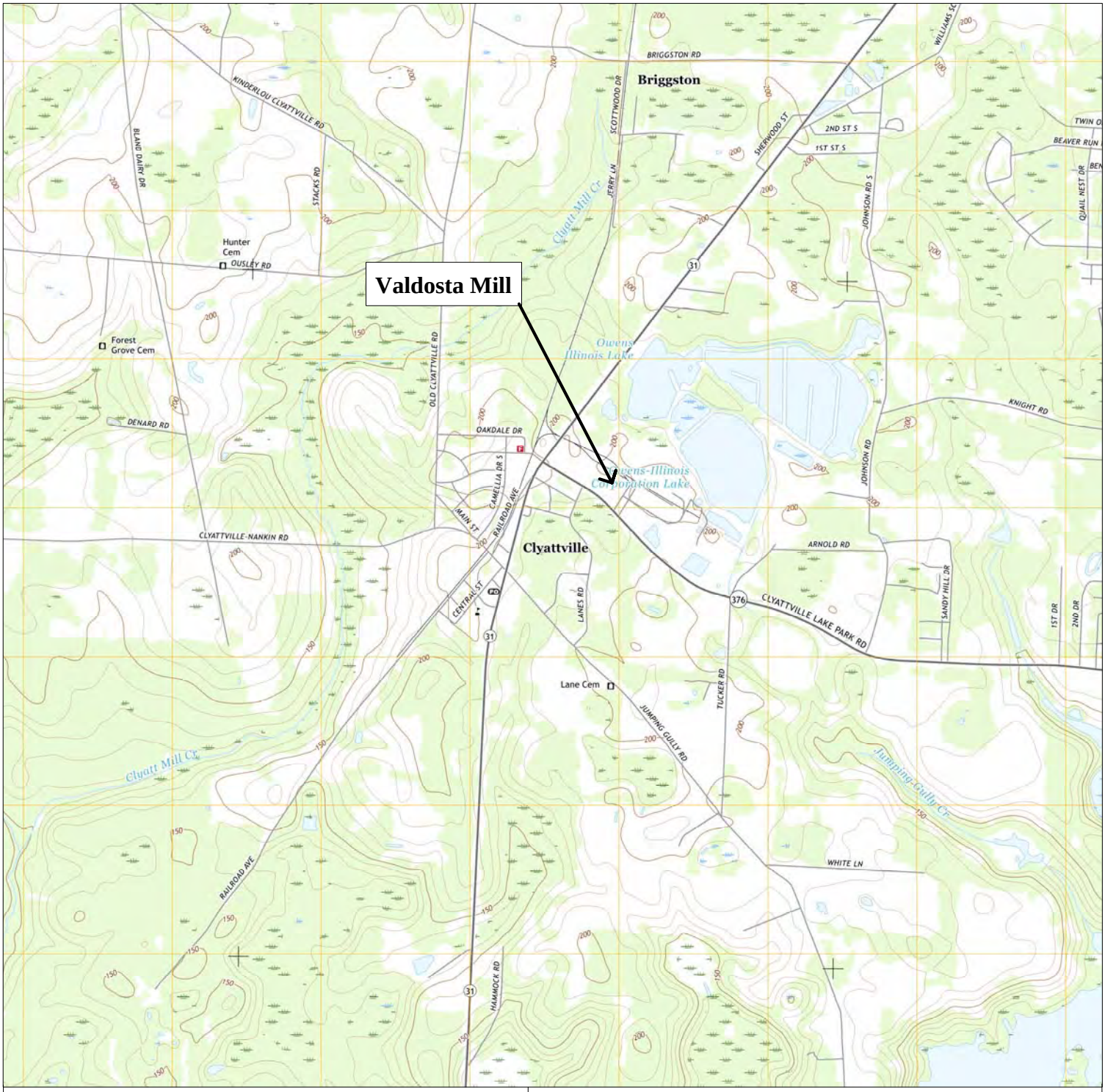
The Mill is located in the Southwest Georgia Intrastate Air Quality Control Region (AQCR) (40 CFR §81.238). Within this AQCR, Lowndes County is in attainment or unclassifiable/attainment for all of the NAAQS including the 2015 8-hour ozone (O_3) standard as of October 31, 2018 per 40 CFR §81.311.

2.2 REGULATORY JURISDICTION

The Mill is under the jurisdiction of the following State and Federal agencies:

Georgia Department of Natural Resources
Environmental Protection Division
Air Protection Branch
4244 International Parkway, Suite 120
Atlanta, GA 30354

U.S. Environmental Protection Agency (U.S. EPA)
Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303



Approximate quadrangle location

Based on USGS 1:24,000 topopgraphical map for Clyattville, GA 2016.

Packaging Corporation of America
Valdosta Mill
Clyattville, GA

Figure 2-1
Mill Location Map

2.3 MILL PROCESS DESCRIPTION

The Valdosta Mill process begins with wood, in the form of tree length logs and/or chips, which are delivered to the Mill by truck. The logs are offloaded by stationary crane into one of three log storage stacks, from which the logs are reclaimed and sent to the debarking/chipping operation. One of the stacks is a wet log yard to allow more time for the logs to dry. The logs are debarked and processed into wood chips. The wood chips may be transferred to the chip pile, or may be sent directly to screening and the chip silos. All the chips are screened prior to being processed in the Mill's digesters. Smaller chips, called "pin chips" are segregated into a separate silo for more efficient processing. The bark from the logs and screen rejects are collected and combined with purchased wood residue fuels, stored in a bark storage pile, and burned as biomass fuel in the Mill's combination fuel power boilers.

Pulping and Papermaking

The wood chips are transferred from the woodyard area and charged to one of ten batch digesters where they are cooked in white liquor (sodium hydroxide/sodium sulfate solution). Recycled black liquor may also be added to provide additional liquid volume. This mixture is called cooking liquor. During the cooking process, steam is added to the cooking liquor and chips, which creates high temperature and pressure in the digester. At this elevated pressure and temperature, the caustic in the white liquor penetrates the chips, breaking down and dissolving the lignin and other organics in the wood. When the cooking process is completed, the digester is opened and the contents are "blown" into a blow tank. As the digester is blown, the abrupt pressure change causes the cooked chips to break into fibers. These fibers make up the pulp that is ultimately made into linerboard. The vapors and non-condensable gases (NCG) from the digester blow are collected and treated. The condensed vapors, or pulping condensates, from the digester blows are also collected and treated.

The pulp is refined, screened, and washed to remove the excess spent cooking liquor. The spent cooking liquor contains the lignin and other impurities from the chips. The cooking liquor appears black in color and is referred to as black liquor. The black liquor is washed from the pulp in the brown stock washers and is then collected and processed in the chemical recovery

area of the Mill (see Chemical Recovery below). The washers are enclosed, and vapor and gases leaving the washers are collected and treated by thermal oxidation. The pulping process and brown stock washing systems are subject to 40 CFR Part 63 Subpart S, which regulates the collection and treatment of the NCG gases, vapor streams and pulping condensates.

The washed pulp, commonly referred to as stock, is removed from the washers and stored in high-density stock tanks. The stock leaving these tanks is diluted, further refined, and mixed with internally recycled pulp and certain additives to be processed on the Paper Machine System. The Paper Machine System forms the stock into a continuous web, which is drained, pressed, dried and wound into large rolls of finished linerboard. At the winder operations the large linerboard rolls are cut down to rolls with shorter lengths and smaller diameters for shipment to customers. The finished product is then shipped from the Mill by truck and by rail.

Chemical Recovery

The black liquor collected at the brown stock washers is reprocessed back into white liquor for reuse in the chemical recovery cycle. The black liquor is concentrated to 45-55% solids in a 6-effect multiple effect evaporator (MEE), followed by a set of Reynolds Enhanced Crystallizer (REX) concentrators which bring the liquor solids content up to 68% and a REX unit operated as a high solids crystallizer, which then brings the liquor solids up to 73-75% for firing in the recovery furnace.

PCA operates a non-direct contact evaporator (NDCE) recovery furnace (No. 4 Recovery Furnace – Emissions Unit ID No. 7040), and smelt dissolving tank (No. 4 Smelt Dissolving Tank – Emissions Unit ID No. 7045) to burn the black liquor as biomass fuel to recover the heat for steam generation and simultaneously recover the inorganic chemicals for regeneration of the cooking chemicals in the causticizing operation. The steam produced is at approximately 1,500 pounds per square inch (psi) and is used to drive the No. 3 Turbine-Generator to produce electricity for use in the Mill and provide steam to the process. The Mill can sell electricity to the local utility company when more electricity is generated than is needed for Mill operations and can purchase electrical power from the local utility company as needed. The

No. 4 Smelt Dissolving Tank discharges its vent gases into the No. 4 Recovery Furnace with the combustion air. Per U.S. EPA guidance, it was determined that this configuration meets the applicable emissions limits for the No. 4 Smelt Dissolving Tank. The No. 4 Recovery Furnace is also subject to 40 CFR Part 60, Subpart Db when firing natural gas.

The multiple effect evaporator (MEE) is subject to 40 CFR Part 60, Subpart BB and 40 CFR Part 63, Subpart S. The No. 4 Recovery Furnace and No. 4 Smelt Dissolving Tank are subject to 40 CFR Part 63 Subpart MM, and 40 CFR Part 60 Subpart BB. A steam stripper for treating regulated condensates from the pulping and evaporator processes is located at the MEE system and is subject to 40 CFR Part 60 Subpart BB and 40 CFR Part 63 Subpart S.

Green liquor is produced in the No. 4 Smelt Dissolving Tank by the addition of alkaline weak wash to the molten smelt from the No. 4 Recovery Furnace. Green liquor is an aqueous solution of sodium carbonate and sodium sulfide that has a greenish tint. The green liquor is further processed in the causticizing area, where it is converted back into white liquor by adding it to lime (calcium oxide). The lime converts the sodium carbonate into sodium hydroxide and calcium carbonate. The sodium hydroxide is soluble, and this caustic solution is recovered as white liquor, stored, and reused in the digesters. The calcium carbonate precipitates out of the white liquor and is collected, washed, and calcined in the No. 4 Lime Kiln (Emissions Unit ID No. 6063), which converts the calcium carbonate back to calcium oxide by adding heat. The "reburned" lime is stored in a lime silo and is added again to green liquor. Purchased quicklime (calcium oxide) can be added to the lime silo for chemical makeup. The No. 4 Lime Kiln is subject to 40 CFR Part 60, Subpart BB and 40 CFR Part 63, Subpart MM.

Turpentine and Tall Oil

The Mill also produces turpentine and tall oil as co-products of the Kraft process. Turpentine is recovered by condensing digester relief gases. Tall oil is a co-product of the black liquor evaporation process. In the evaporators, black liquor soap is skimmed from the black liquor and stored. The soap results from the oils in the wood chips and the sodium in the cooking liquors in the digesters. The oils are converted into sodium soaps, which dissolve in the black liquor. When the black liquor is concentrated in the evaporators, the soap becomes insoluble and

separates from the liquor. The soap is then skimmed off and converted into tall oil in a batch reactor by mixing it with sulfuric acid (H_2SO_4). The tall oil is typically sold for use as a feed stock in the chemical industry. Tall oil is similar in heating value and sulfur content to low sulfur oil and may also be burned in the lime kiln or the power boilers as a biomass fuel.

Power Boilers and Utilities

The Mill has two combination-fuel power boilers (Riley Combination Boiler – Emissions Unit ID No. 1005 and C.E. Combination Boiler – Emissions Unit ID No. 1006), and a natural gas-fired power boiler (No. 3 Power Boiler – Emissions Unit ID 7020A). The boilers are subject to 40 CFR Part 63, Subpart DDDDD for industrial boilers. The two combination-fuel boilers are covered by the 40 CFR Part 63 Subpart DDDDD hybrid suspension/grate subcategory for existing units, with U.S. EPA concurrence on this determination on June 5, 2013. Overfire Air (OFA) systems have been installed on the combination-fuel boilers to improve boiler efficiency on biomass fuels and reduce particulate matter (PM) emissions. Additional modifications to these boilers for 40 CFR Part 63 Subpart DDDDD compliance purposes include automating the oxygen (O_2) systems for O_2 trim control, changing burners to provide sufficient capacity during startup and shutdown to meet the "clean fuels" provision of Subpart DDDDD, and the addition of tire derived fuel (TDF) at less than 10% of the heat input on an annual basis as an alternative permitted fuel source for the Combination Boilers. These power boilers produce 800 psi steam, which is used to drive two steam turbine-generators and provide live steam to the Mill processes.

The Mill utilities also include a water plant that provides process water, cooling water and boiler feed-water, air compressors that provide instrument air and process air, and five cooling towers.

Wastewater Treatment System

The Mill operates a Florida Department of Environmental Protection (FDEP) – National Pollutant Discharge Elimination System (NPDES) permitted wastewater treatment plant that treats process wastewater from the Mill prior to discharge to the Withlacoochee River in Florida. The wastewater treatment process includes primary clarification with sludge dewatering

ponds and mechanical dewatering presses for the wastewater residuals. The clarified wastewater undergoes secondary biological treatment in a series of facultative and aerated impoundments, followed by polishing aeration prior to discharge to the receiving stream. The Mill also operates a GEPD-permitted back-up land application system.

Landfill and Residuals Management

The Mill has an on-site industrial landfill that is used for Mill-generated waste materials only. Also, various solid process residuals are screened and/or blended for beneficial reuse by an independent contractor on land leased from PCA.

2.4 PROPOSED PROJECT DESCRIPTION

PCA is proposing to make physical changes to the Paper Machine System to optimize its operations and accommodate a proposed increase in linerboard production. Due to corporate-wide redistribution of containerboard grades produced at PCA's paper mills, the Valdosta Mill's grade mix will be weighted toward heavier grades of paper. The proposed project includes physical modifications to the Paper Machine System to improve quality, and a revision to the Mill's annual paper production limit. The Mill is submitting this application for a proposed change to the Mill pursuant to Georgia Air Quality Control (G.A.C.) Rule 391-3-1-.02(7). The Mill is proposing to make the following modifications to the Paper Machine System:

- Upgrade the headbox;
- Upgrade the PD stock feed tank and/or upgrade to low pulse hydrofoil assemblies for the three existing Bird screens;
- Upgrade the dilution control header and dilution water supply pump.

With this application, the Mill is proposing to modify the Paper Machine System and increase its production capacity to approximately 662,300 ODT/yr, which exceeds the current annual paper production limit of 595,400 ODT/yr on a 12-month rolling total basis. Therefore, the Mill proposes that the current paper production limit be removed from the TVOP and that the new production capacity of 662,300 ODT/yr be incorporated as the new limit.

The Paper Machine System is the only source being modified as part of this project. Several sources are affected as part of this project. The affected sources are discussed in Section 3 of this application narrative. The Package Boiler is a rental unit that has not been brought onsite in several years; however, it has not been removed as a permitted emissions unit from the Mill's TVOP. The Mill is proposing to remove the Package Boiler from the TVOP; as a result, it is listed as "Shutdown" in Table 3-1.

3. PROJECT EMISSIONS INVENTORY

This section describes how the project-related emissions increases were calculated and how these emissions increases were used to determine PSD applicability. The calculation of project-related emissions increases consists of three steps. The first step involves classifying the project emissions units as being new, modified, affected, not affected, or shutdown as a result of the project. Since there are no new emissions units being proposed, the emissions increases associated with the proposed project are the total emissions increases from the modified and affected emissions units, defined as follows:

- Modified emissions units are defined as those emissions units that will undergo a physical change or a change in the method of operation, resulting in an emissions increase.
- Affected emissions units are those units that are impacted by the proposed changes and will experience a change in emissions as a result of a modification to an emissions unit located upstream or downstream (e.g., additional uptime, de-bottlenecking).
- Emissions units that are identified as "not affected" are those emissions units at the Mill that are not impacted at all by the proposed project.

Table 3-1 identifies the modified, affected, not affected, and shutdown emissions units associated with the project. While most emissions units will be affected by the project, the only modified emissions unit is the Paper Machine System. Per the steam balance, no increase in steam demand is expected for the No. 3 Power Boiler, Riley Combination Boiler, or C.E. Combination Boiler. However, to conservatively estimate emissions as part of the proposed project, the Riley and C.E. Combination Boilers have been treated as "Affected" emissions unit and the No. 3 Power Boiler has remained "Not Affected." The rental Package Boiler has not been brought onsite in several years; however, it has not been removed from the TVOP. The Mill is proposing to remove the Package Boiler as a permitted emissions unit from the TVOP as part of this project; therefore, the Package Boiler is listed as a "Shutdown" emissions unit.

The second step in the PSD applicability evaluation is a determination of the project-related emissions increase for each modified and affected emissions unit using the "actual-to-projected actual" applicability approach, which calculates the difference between projected actual emissions (PAE) and baseline actual emissions (BAE).

Table 3-1
Classification of Emission Units
PCA - Valdosta, GA Mill

Source	Modified/Affected/ Not Affected
1005 Riley Combination Boiler	Affected
1006 C.E. Combination Boiler	Affected
1058 Package Boiler	Shutdown
7040 No. 4 Recovery Furnace	Affected
6063 No. 4 Lime Kiln	Affected
7045 No. 4 Smelt Dissolving Tank	Affected
6025 Slaker	Affected
6076 Thermal Oxidizer	Affected
G016 No. 3A Brown Stock Washer System	Affected
G039 No. 4 Chemiwasher System	Affected
8009 Tall Oil Reactor Tank	Affected
G037 Digesters 1-9 System	Affected
G038 Digester 10 System	Affected
G040 Multiple Effect Evaporator	Affected
G033 Turpentine System	Affected
4336 Condensate Stripper	Affected
G014 Paper Machine System	Modified
GG14 Paper Machine - Wet	Affected
G036 HD Tanks	Affected
4300 Black Liquor Pond	Affected
G008 Chip Screen	Affected
G010 Chip Pile	Affected
G006 Bark Handling	Affected
G011 Bark Pile	Affected
Roadways	Affected
Drop Points - Chips	Affected
Drop Points - Bark	Affected
G030 Wastewater Treatment Plant	Affected
HVLC Combustion	Affected
7020A No. 3 Power Boiler	Not Affected

The final step is a comparison of the total project-related emissions increases from the modified and affected emissions units to the PSD significant levels for each regulated NSR pollutant. For those pollutants with a project-related emissions increase greater than the PSD significant level, a netting evaluation is conducted to determine the effects (i.e., reduction or increase) of past contemporaneous projects in conjunction with the proposed project.

A past project is considered "contemporaneous" with the proposed project if it occurred during the "contemporaneous period," which begins five years prior to the date construction is expected to commence and ends when the emissions increase from the particular project occurs (i.e., resumption of regular operations following the project). The net emissions increase is determined by summing the contemporaneous increases and decreases with the proposed project-related emissions increases. Those pollutants with both a significant emissions increase and a significant net emissions increase are subject to PSD permitting requirements.

A description of the project emissions inventory is provided in the following subsections. Supporting tables, emissions factors, and related emissions inventory documentation are provided in Appendix A.

3.1 PSD APPLICABILITY EVALUATION

The following subsections provide a detailed description of the emissions inventory that was developed to evaluate the applicability of GEPD and Federal PSD requirements to the proposed project. The following list provides clarifications of specific items covered by the inventory:

1. Emissions of greenhouse gases (GHG) were included in the inventory consistent with the June 2014 U.S. Supreme Court decision pertaining to the regulation of GHG. The Court ruled that sources of GHG cannot be regulated under the PSD and Title V programs based solely on their GHG emissions. However, facilities that are undergoing a PSD permitting process may be subject to BACT review for GHG if the emissions of GHG exceed a *de minimis* level. GEPD has issued guidance to incorporate this approach (Implementation Policy on GHG Tailoring Rule, issued July 2, 2014). GHG emissions have been estimated in terms of carbon dioxide equivalent (CO_2e), and the emissions associated with the combustion sources have been quantified using the same PSD applicability approach as the other regulated NSR pollutants. GHG emissions factors were obtained from 40 CFR Part 98, Subparts C and AA, as amended December 9, 2016. The CO_2e emissions increases have been compared to the significant emissions increase threshold of 75,000 tons per year (tpy).

2. Emissions factors for several Mill emissions units were obtained from National Council for Air and Stream Improvement (NCASI) published data. Where newer or more accurate data were available, emissions factors historically used to estimate BAE were updated. For example, historically the PM emissions factor for the Paper Machine System was the "Non-Tissue" factor in NCASI Technical Bulletin 1020, which is the average emissions factor for five non-tissue paper machines (one linerboard, one newsprint, and three coated paper). For this analysis, the PM emissions factor from NCASI Technical Bulletin 942 for Source D, a linerboard machine, was used. Since the Valdosta Mill's Paper Machine System produces linerboard, this factor is more representative of emissions from the Paper Machine System than the historic Paper Machine System emissions factors. Maximum emissions factors for the ten year lookback period were used for PAE calculations except as discussed in Section 3.1.2.

3. Fugitive emissions from roadways and woodyard operations were included as a part of this analysis. Paved roadway emissions and purchased chip handling and storage emissions were calculated using U.S. EPA's AP-42, Section 13.2.1 and NCASI Special Report (SR) 15-01.

4. Condensable PM (CPM) emissions were included with PM with a diameter of less than 10 microns (PM_{10}) and PM with a diameter of less than 2.5 microns ($PM_{2.5}$) in accordance with U.S. EPA's October 2012 final NSR rule (77 FR 65107) regarding which fractions of PM should include CPM.

5. For emissions units where hydrogen sulfide (H_2S) was not included in PCA Valdosta's annual emissions inventory system (EIS) submittals, H_2S emissions were conservatively assumed to equal total reduced sulfur (TRS) emissions.

6. Emissions were quantified for auxiliary fuels (e.g., natural gas) fired in the Mill's recovery furnace and lime kiln.

3.1.1 Baseline Actual Emissions

G.A.C. 391-3-1-.02(7)(a)(2)(i) defines BAE of an existing emissions unit (other than an electric utility steam generating unit) as the average rate, in tpy, at which the emissions unit actually emitted a pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by GEPD, whichever is earlier. For the purposes of this application, the "lookback" period for BAE begins in January 2009.

The selection of a baseline period may vary on a pollutant-by-pollutant basis. However, the baseline periods for a single pollutant must be consistent for all modified and affected emissions

units. After reviewing historic Mill emissions data for the modified and affected emissions units associated with this project, PCA Valdosta selected the following baseline periods:

- January 2009 through December 2010: lead (Pb)
- March 2012 through February 2014: nitrogen oxides (NO_X), carbon monoxide (CO), TRS, and H_2S
- June 2012 through May 2014: PM
- July 2012 through June 2014: PM_{10}, $PM_{2.5,}$ CO_2e, and Total GHG
- September 2012 through August 2014: H_2SO_4
- January 2015 through December 2016: sulfur dioxide (SO_2)
- January 2016 through December 2017: volatile organic compounds (VOC)

BAE were calculated using monthly throughputs or production rates for each existing emissions unit. Where monthly throughputs or production rates were not available, the Mill apportioned annual throughput or production across the 12 months of the given year to calculate monthly values (i.e., divided the annual rate by the number of days in the year, and then multiplied by the number of days in the month). Where monthly throughputs or production rates were not available but quarterly rates were available, quarterly rates were divided by three and apportioned to each month of the quarter. Emissions factors were obtained from a combination of published sources (i.e., NCASI data, U.S. EPA's AP-42, or 40 CFR Part 98), stack test data, and continuous emissions monitoring systems (CEMS) data. The BAE inventory for this project is consistent with PCA Valdosta's annual EIS submittals, except for the updates made as described in Section 3.1.2.

Table A-1 of Appendix A contains a summary of the BAE for the modified and affected units associated with the proposed project.

3.1.2 Projected Actual Emissions

PAE represents the maximum annual emissions that the Mill expects to occur following the project considering relevant information including, but not limited to, historical operating data, the company's expected business activity, and the company's highest projections of business activity.

G.A.C. 391-3-1-.02(7)(a)(2)(ii) defines PAE as the maximum annual rate, in tpy, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the five or 10 years (i.e., 12-month period) following the date the unit resumes regular operation after the project. The 10-year projection period applies for a regulated NSR pollutant if the project involves increasing the emissions unit's design capacity or its potential to emit (PTE) that regulated NSR pollutant; and full utilization of the emissions unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source. Otherwise, the five-year period of projection applies. The proposed project includes a modification to an existing emissions unit that will increase the PTE of a regulated NSR pollutant, and full utilization of the emissions unit would result in significant emissions increases. Therefore, PCA Valdosta has based its projections on a 10-year period following the completion of the project.

PAE calculations utilized projected throughputs determined through engineering modeling performed by the Mill, as well as historic relational data. Emissions factors for PAE were conservatively set equivalent to the maximum emissions factors that occurred over the 10 year lookback period, with the exception of emissions factors for PM from the Riley Combination Boiler while combusting bark. The maximum emissions factor for this unit and throughput during the ten year lookback period was a 2011 site-specific factor of 0.098 pounds per million British thermal units (lb/MMBtu). The average of the site-specific PM emissions factors from the last three years (i.e., 2015 through 2017) is 0.0667 lb/MMBtu. The average of the last three years of emissions factors is a more representative projection of future emissions from the Riley Combination Boiler, and as such, this factor was used for PAE calculations. $PM_{2.5}$ and PM_{10} BAE emissions factors for the Riley Combination Boiler while combusting bark are based on the PM emissions factor; therefore, the $PM_{2.5}$ and PM_{10} PAE emissions factors are also based on the average of 2015-2017 PM emissions factor.

The PAE of the modified and affected emissions units are shown in Table A-2 of Appendix A.

3.1.3 Excludable Emissions

G.A.C. 391-3-1-.02(7)(a)(2)(ii)(III) specifies that when calculating the PAE for the proposed project, the Mill may exclude the portion of an emissions unit's emissions following the project

that an existing emissions unit could have accommodated (CHA) during the consecutive 24-month period used to establish the BAE and that are unrelated to the project (including any increased utilization due to product demand growth).

CHA emissions are calculated based upon two criteria. The first CHA emissions criterion is that the modified and affected emissions units could have actually accommodated the emissions but did not actually emit them during the baseline period. In order to ensure that the calculated CHA emissions could have actually been accommodated during the selected baseline period, PCA Valdosta selected the maximum monthly throughput rate that was actually achieved during the baseline period. The selected monthly throughput rate for a unit was converted to a daily basis (i.e., divided by the number of days in a month), and then annualized based on 359 days of operation, assuming an average of six days per year of downtime for maintenance, etc. A sample calculation that annualizes the January 2012 monthly throughput of bark for the Riley Combination Boiler is as follows:

$$P_{CHA}\ [2{,}705{,}014\ MMBtu] = \frac{P_M(233{,}581\ MMBtu)}{N_M\ (31)} \times N_y\ (359)$$

Where:

$P_{CHA} = CHA\ Production\ Rate$

$P_M = Actual\ Monthly\ Production\ Rate$

$N_M = Number\ of\ Days\ in\ the\ Applicable\ Month$

$N_Y = Number\ of\ Operating\ Days\ in\ the\ Applicable\ Year$

The second criterion for evaluating CHA emissions specifies that the CHA emissions must be unrelated to the proposed project. The sustained nature of the throughput rates over an entire month indicates that the CHA production rates and emissions rates are unrelated to the proposed project and that the PCA Valdosta Mill can already accommodate those emissions in the absence of the proposed project given the appropriate product demand. For the Paper Machine System, annualized CHA production rates greater than the existing 595,400 ODT/yr permit limit were adjusted downward to 595,400 ODT/yr because the Mill could not have accommodated paper production greater than the existing permit limit.

In addition, the Mill analyzed the annualized paper production rate relative to throughputs for emissions units whose throughput can be related to paper production (e.g., No. 4 Recovery Furnace and No. 4 Lime Kiln). The paper production during each emissions unit's maximum throughput month during the baseline period was annualized to ensure that the annualized paper production rate was less than the existing 595,400 ODT/yr permit limit. If the annualized paper production rate was less than the existing permit limit, the CHA production rates and emissions rates for the individual emissions units are unrelated to the proposed project and the PCA Valdosta Mill can already accommodate those emissions in the absence of the proposed project given the appropriate product demand. If the annualized paper production rate was greater than the existing permit limit, the Mill developed relational data to adjust the emissions source's maximum throughput downward. This approach was used for the Black Liquor Solids (BLS) throughput in the No. 4 Recovery Furnace for VOC CHA emissions. The Mill developed an average ratio of BLS-fired to paper produced and multiplied the existing permit limit by the ratio to determine the adjusted No. 4 Recovery Furnace BLS throughput for VOC CHA emissions. A summary of the annualized paper production rates for comparison against the existing 595,400 ODT/yr permit limit is shown in Table 3-2.

Table A-3 of Appendix A summarizes the emissions that the Mill could have accommodated during the baseline period. The emissions presented were calculated using the same emissions factors that were used to calculate BAE. The BAE were subtracted from the CHA emissions to determine the excludable emissions.

3.1.4 PSD Applicability Analysis

A determination of PSD applicability was made based on the total project-related emissions increases from the modified and affected emissions units. The total project-related emissions increases are calculated as follows:

Table 3-2
Summary of Annualized Paper Production
PCA - Valdosta, GA Mill

Source	Pollutant	Month of Maximum Throughput	Monthly Paper Production (ODTFP)	Annualized Paper Production (ODTFP)
7040 No. 4 Recovery Furnace[(a)]	PM filterable	10/1/2012	45,993	532,623
	PM_{10}	10/1/2012	45,993	532,623
	$PM_{2.5}$	10/1/2012	45,993	532,623
	NO_X	10/1/2012	45,993	532,623
	SO_2	7/1/2015	49,034	567,842
	CO	10/1/2012	45,993	532,623
	VOC	7/1/2016	52,816	595,400
	TRS	10/1/2012	45,993	532,623
6063 No. 4 Lime Kiln	PM filterable	10/1/2013	45,304	524,650
	PM_{10}	10/1/2013	45,304	524,650
	$PM_{2.5}$	10/1/2013	45,304	524,650
	NO_X	1/1/2013	45,021	521,371
	SO_2	10/1/2016	47,852	554,158
	CO	10/1/2013	45,304	524,650
	VOC	6/1/2016	48,071	575,246
	Pb	4/1/2009	36,395	435,527
	H_2SO_4	1/1/2013	45,021	521,371
G014 Paper Machine System[(b)]	PM filterable	7/1/2012	47,028	544,615
	PM_{10}	7/1/2012	47,028	544,615
	$PM_{2.5}$	7/1/2012	47,028	544,615
	VOC	7/1/2016	52,816	595,400
GG14 Paper Machine - Wet	VOC	12/1/2017	49,822	576,974

[(a)] The annualized paper production rate for VOC has been adjusted downward to match the existing permit limit. The Mill has used historic relational data to adjust the Black Liquor Solids throughput that could have been accommodated downward in relation to the adjusted annualized paper production rate.

[(b)] The annualized paper production rate for VOC has been adjusted downward to match the existing permit limit.

$$Project\ Increases = PAE - BAE - Excludable\ Emissions$$

Where:

$$Excludable\ Emissions = CHA\ Emissions - BAE$$

The project-related emissions increases for each regulated NSR pollutant, considering excludable emissions, are presented in Appendix A.

The results of the applicability analysis demonstrate that the project-related emissions increases are above the PSD significant levels for NO_X, CO, VOC, and CO_2e. Because the project-related emissions increases for these pollutants are above the PSD significant levels, a netting analysis is required for these pollutants.

3.1.5 Netting Analysis

The project-related emissions increases of NO_X, CO, VOC, and CO_2e exceed their respective PSD significant levels; therefore, a netting analysis is required for these pollutants, which takes into account contemporaneous emissions increases and decreases at the Mill. The purpose of the netting analysis is to quantify the emissions reductions at the Mill over the contemporaneous period and the cumulative emissions increases from small projects implemented during the contemporaneous period. PCA Valdosta is required to examine all creditable emissions increases and decreases during the contemporaneous period. To complete the netting analysis, contemporaneous and creditable emissions increases and decreases were combined with the increases directly attributable to the project to determine the total net emissions change for the proposed project. The contemporaneous period begins five years prior to the date construction is expected to start on the proposed project and ends when the emissions increase from the proposed project occurs (i.e., the resumption of regular operating following the project). The proposed project is expected to begin construction in March 2019 and resume normal operation in August 2019. As such, the contemporaneous period for this project is March 2014 – August 2019.

There are no projects eligible for evaluation as a contemporaneous emissions increase or decrease during the contemporaneous period. In September of 2018, the Mill submitted an off-permit change for replacement of a non-emergency diesel fire water pump, but this replacement has not

yet taken place; therefore, the emissions decrease anticipated by this project cannot be considered in the netting analysis.

The Mill made physical changes to its Paper Machine System under a separate construction permit in 2013 and revised the Mill's paper production limit under a separate minor modification without construction permit application in 2015. The 2015 paper production limit revision occurred during the contemporaneous period for the proposed project but is not considered a contemporaneous project for purposes of this project because the emissions increases obtained from the paper production limit increase are attributable to the original Paper Machine System construction permit in 2013, which is outside of the contemporaneous period. The emissions increases are attributable to the 2013 Paper Machine System construction permit because the 2015 paper production limit increase allowed the Mill to achieve the maximum capacity of the Paper Machine System as a result of the physical modifications that had been completed in 2013. In addition, the emissions increases associated with the 2015 paper production limit revision are already accounted for as part of the proposed project because the Mill is establishing a new permit limit greater than the permit limit established during the 2015 paper production limit revision. As such, the emissions increases cannot be evaluated as a contemporaneous project and are not included in the netting analysis of the proposed project.

3.1.6 Netting Analysis Conclusions

There are no emissions increases or decreases that occurred during the contemporaneous period. As such, the netting analysis does not decrease the total project related emissions increases of NO_X, CO, VOC, or CO_2e below the respective PSD significant level; and therefore, the proposed project triggers PSD permitting requirements for these pollutants.

3.2 FUTURE EMISSIONS REPORTING

The GEPD PSD regulations contain provisions related to a source's obligation to track actual emissions in the future for comparison against PAE. Specifically, G.A.C. 391-3-1-.02(7)(b)(15) contains provisions which state that the owner or operator shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any [new, modified, or affected emissions unit], and calculate and maintain a record of the annual

emissions, in tpy on a calendar year basis, for a period of 10 years [as determined in Section 3.1.2] following resumption of regular operations after the change. In addition, PCA Valdosta must calculate the actual increase in emissions due to demand growth, in tpy on a calendar year basis, for a period of 10 years following resumption of regular operations after the change. Based on these requirements, PCA Valdosta shall track future actual emissions of all regulated NSR pollutants for which an increase in emissions is anticipated, including GHG, PM filterable, PM_{10}, $PM_{2.5}$, NO_X, SO_2, CO, VOC, Pb, TRS, H_2S, H_2SO4, and CO_2e. Pursuant to G.A.C. 391-3-1-.02(7)(b)(15)(i)(V), PCA Valdosta shall submit a report to GEPD within 60 days after the end of each year, describing each emissions unit's annual emissions and each emissions unit's actual increase in emissions due to demand growth during the calendar year. All of the aforementioned records shall be maintained for a period of five years past the end of each calendar year.

4. REGULATORY APPLICABILITY

The Mill has reviewed Federal and State of Georgia air regulations to determine if the proposed project will affect currently applicable regulatory requirements or trigger newly applicable requirements. The following regulatory applicability evaluation has been completed for the affected, modified, and shutdown emissions units as part of the proposed project.

4.1 FEDERAL AIR QUALITY REGULATIONS

PCA has evaluated the proposed project for Federal air quality regulations. For the purpose of this application, potentially applicable Federal regulations include:

- New Source Review
- Standards of Performance for New Stationary Sources (NSPS)
- National Emission Standards for Hazardous Air Pollutants (NESHAP)
- Compliance Assurance Monitoring (CAM)

A discussion of the specific Federal requirements is provided in the following subsections.

4.1.1 New Source Review

The Mill is located in Valdosta, Lowndes County, Georgia which is classified as in attainment or unclassifiable for the NAAQS for all criteria pollutants. Therefore, only the Federal PSD permitting requirements could apply to the proposed project and nonattainment NSR (NNSR) has not been considered in the evaluation.

The Valdosta Mill is an existing major stationary source with respect to PSD. Based on the Step 1 applicability determination described in Section 3.1.4, the project results in a significant emissions increase of CO, NO_X, VOC, and CO_2e emissions, and a Step 2 netting analysis is required. Based on the Step 2 netting analysis determination described in Section 3, the project results in a significant net emissions increase of CO, NO_X, VOC, and CO_2e, and the project is subject to PSD review for these regulated NSR pollutants. This application satisfies the requirements for PSD permitting per 40 CFR §52.21.

4.1.2 Standards of Performance for New Stationary Sources (NSPS)

U.S. EPA has promulgated standards of performance for specific sources of air pollution at 40 CFR Part 60. The following 40 CFR Part 60 subparts potentially apply to portions of the proposed project:

- Subpart A – General Provisions
- Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
- Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
- Subpart BB – Standards of Performance for Kraft Pulp Mills
- Subpart BBa – Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013

The provisions of 40 CFR Part 60, Subpart A apply to the owner or operator of any stationary source subject to NSPS. The Mill is already subject to, and will continue to comply with the currently applicable sections of the General Provisions in 40 CFR Part 60, Subpart A. Based on the NSPS definition of a modification, the only emissions unit being modified as part of the proposed project is the Paper Machine System, which is not subject to any Subpart of 40 CFR Part 60. Since the Paper Machine System is the only emissions unit being modified as part of the proposed project and the sources currently subject to 40 CFR Part 60, Subparts Db, BB, and BBa will not be modified as a result of the proposed project, the applicability of these NSPS Subparts do not change as a result of the proposed project. The Mill will continue to comply with currently applicable provisions of these Subparts following the completion of the proposed project.

4.1.2.1 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

40 CFR Part 60, Subpart Dc establishes SO_2 and PM emissions standards, testing, monitoring, recordkeeping, and reporting requirements for steam generating units constructed, modified, or reconstructed after June 9, 1989, with a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than 10 MMBtu/hr. The rental Package Boiler is currently the only emissions unit at the Mill subject to the requirements under 40 CFR Part 60, Subpart Dc. The Mill has not brought

the Package Boiler onsite in several years and is proposing to remove it as a permitted emissions unit from the Mill's TVOP. Following the removal of the Package Boiler from the Mill's TVOP, no other emissions units at the Mill are subject to or will become subject to 40 CFR Part 60, Subpart Dc; therefore, all references to 40 CFR Part 60 Subpart Dc should be removed from the TVOP.

4.1.3 National Emission Standards for Hazardous Air Pollutants (NESHAP)

NESHAPs promulgated prior to the Clean Air Act (CAA) Amendments (CAAA) of 1990, codified in 40 CFR Part 61, apply to specific compounds emitted from certain listed processes. No emissions units at the Mill are currently subject to 40 CFR Part 61 subparts, and the Mill will not become subject to these subparts following the proposed project.

Pursuant to the CAAA of 1990, process-specific NESHAPs are promulgated in 40 CFR Part 63. NESHAPs promulgated under 40 CFR Part 63, also referred to as maximum achievable control technology (MACT) standards, apply to certain identified source categories that are considered area sources or major sources of hazardous air pollutants (HAP). An area source of HAP is defined as any stationary source of HAP that is not a major source of HAP. A major source of HAP is defined as any stationary source or group of stationary sources that emits or has the potential to emit 10 tpy or more of any single HAP, or 25 tpy or more of any combination of HAP. The Valdosta Mill is a major source of HAP. The following 40 CFR Part 63 subparts are potentially applicable to the proposed project:

- Subpart A – General Provisions
- Subpart S – National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry
- Subpart MM – National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills
- Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

The applicability of the aforementioned 40 CFR Part 63 subparts do not change as a result of a modification to an emissions unit. As such, any change in applicability would be a result of a

newly constructed emissions unit or reconstructed emissions unit. The proposed project will not be constructing any new emissions units or reconstructing any existing emissions units. Therefore, the applicability of the aforementioned 40 CFR Part 63 subparts will not change following the proposed project. The Mill will continue to comply with the provisions of the aforementioned 40 CFR Part 63 subparts following completion of the proposed project. Revisions to the TVOP are required to incorporate amendments to 40 CFR Part 63, Subpart MM, as discussed in the following section.

4.1.3.1 40 CFR Part 63, Subpart MM – National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills

The U.S. EPA published updated amendments to 40 CFR Part 63, Subpart MM on October 11, 2017. As part of this project, the Mill is requesting to incorporate the updated amendements into the Mill's TVOP to ensure compliance by the Subpart MM compliance date. The updated amendments affect the No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank, and general recordkeeping and reporting requirements for the Mill. Subpart MM amendments applicable to the Mill include:

- Opacity monitoring allowances for all recovery furnaces and lime kilns equipped with electrostatic precipitators (ESPs) have been revised from 6% of the quarterly operating time to 2% for recovery furnaces and 3% for lime kilns of the operating time within any semiannual period, per 40 CFR §63.864(k)(2)(i) and (iii). Since the No. 4 Recovery Furnace and the No 4. Lime Kiln are equipped with an ESP, their opacity monitoring allowance will be 2% and 3% respectively after the compliance date.

- Recovery furnaces and lime kilns equipped with ESPs are required to maintain proper operation of the ESP's automatic voltage control (AVC), per 40 CFR §63.864(e)(1). The Mill's No. 4 Recovery Furnace and No. 4 Lime Kiln will comply with this amendment by the compliance date.

- Data recorded by CPMS may be used for establishing operating limits based on the specific procedures specified in 40 CFR §63.864(j).

- The amendments removed the startup, shutdown, and malfunction (SSM) exemption as well as the requirement to maintain an SSM Plan.

- General submittal requirements for recordkeeping and reporting were revised, including, but not limited to the frequency for submitting excess emissions reports, electronic

submittal of performance test reports, and electronic submittal of initial notifications and compliance status notifications.

Per 40 CFR §63.863(c), the Subpart MM amendments were effective on October 11, 2017, and all existing affected sources must comply within two years (i.e., by October 11, 2019). However, as stated in 40 CFR §63.863(c)(1) and (2), the first performance test must be conducted by October 13, 2020 and submitted through the U.S. EPA's Compliance and Emissions Data Reporting Interface (CEDRI) within 60 days of the performance test. Thereafter, performance tests must be completed within five years of the previous performance test, and performance test data must be submitted through CEDRI within 60 days of the completed performance test. PCA has prepared proposed revisions to existing TVOP conditions, proposed new TVOP conditions, and proposed conditions for deletion in order to incorporate the revisions to Subpart MM into the Mill's TVOP. The proposed revisions, new conditions, and conditions for deletion are shown in Table 4-1, Table 4-2, and Table 4-3, respectively.

The Mill will comply with the above listed 40 CFR Part 63, Subpart MM amendments by the October 11, 2019 compliance date and will complete its initial performance test by October 13, 2020. Thereafter, the Mill will complete a periodic performance test within five years of the previous performance test and electronically submit performance test results through CEDRI within 60 days.

4.1.4 Compliance Assurance Monitoring (CAM)

U.S. EPA's CAM rule is codified at 40 CFR Part 64. At the Valdosta Mill, the Riley Combination Boiler, C.E. Combination Boiler, and NCG Thermal Oxidizer (Emissions Unit ID No. 6076) are subject to CAM requirements. These emissions units are not being modified, constructed, or reconstructed as part of the proposed project. Therefore, the applicability of CAM is not affected, and the emissions units will continue to be subject to CAM following the proposed project.

CAM-applicable pollutant. Following the proposed project, the Paper Machine System will not become applicable to CAM requirements because it does not use a control devide and does not have an emissions limit or standard for a CAM-applicable pollutant. The Mill will continue to comply with its current CAM requirements and will not be subject to any new CAM requirements following completion of the proposed project.

Table 4-1
Proposed Revisions to TVOP No. 2631-185-0001-V-03-0 Conditions
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed Revisions to Existing Conditions
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	3.3.25	The Permittee shall comply with all applicable provisions of 40 CFR 63 Subpart MM – "National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills" for the Recovery Furnace, Smelt Dissolving Tank, and Lime Kiln. [40 CFR 63.860(b)(1), 40 CFR 63.860(c), 40 CFR 63.860(d), 40 CFR 63.863(a), 40 CFR 63.863(c)]
		4.2.3	The Permittee may establish expanded or replacement operating ~~ranges~~ limits for the monitoring parameters values using the test methods listed in Condition 4.1.3. [40 CFR 63.864(j)(3)]
		4.2.4	The Permittee must continuously monitor each parameter and determine the arithmetic average value of each parameter during all Division approved performance test~~s~~ runs. Multiple performance tests may be conducted to establish a range of parameter values. Operating outside a previously established parameter limit during a performance test to expand the operating limit range does not constitute a monitoring exceedance. Operating limits must be confirmed or reestablished during performance tests. [40 CFR 63.864(j)(4)]
6063	No. 4 Lime Kiln	5.2.1.b	Opacity from the No. 4 Lime Kiln (Source Code 6063), to be sampled and analyzed for each successive 10-second period at a minimum and averaged and recorded for each successive 6-minute period. Beginning October 11, 2019, each 6-minute COMS data average must be calculated as the average of 36 or more data points, equally spaced over each 6-minute period. [40 CFR 63.864(d)(3), 40 CFR 63.864(d)(4)]

Table 4-1
Proposed Revisions to TVOP No. 2631-185-0001-V-03-0 Conditions
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed Revisions to Existing Conditions
7040	No. 4 Recovery Furnace	5.2.1.c	Opacity from No. 4 Recovery Furnace (Source Code 7040), to be sampled and analyzed for each successive 10-second period at a minimum and averaged and recorded for each successive 6-minute period. Beginning October 11, 2019, each 6-minute COMS data average must be calculated as the average of 36 or more data points, equally spaced over each 6-minute period. [40 CFR 63.864(d)(3), 40 CFR 63.864(d)(4)]
6063 and 7040	No. 4 Lime Kiln and No. 4 Recovery Furnace	6.1.7.b.vi	Until October 11, 2019, the compliance date for the October 11, 2017 40 CFR Part 63 Subpart MM revisions, ~~P~~periods of monitoring exceedances reported for Conditions 6.1.7.b.vi.A and 6.1.7.b.vi.B shall be a violation of 40 CFR 63 Subpart MM if the total period of monitoring exceedance divided by the total process operating time, in a quarterly reporting period, exceeds 6 percent. [40 CFR 63.864(k)(2)(i) and 40 CFR 63.864(k)(2)(ii)]
6063	No. 4 Lime Kiln	6.1.7.d.iv	Until October 11, 2019, the compliance date for the October 11, 2017 40 CFR Part 63 Subpart MM revisions, ~~A~~any period when ten consecutive 6-minute opacity averages result in a measurement greater than 20% opacity for No. 4 Lime Kiln (Source Code 6063). [40 CFR 63.864(k)(1)(i)]
7040	No. 4 Recovery Furnace	6.1.7.d.v	Until October 11, 2019, the compliance date for the October 11, 2017 40 CFR Part 63 Subpart MM revisions, ~~A~~any period when ten consecutive 6-minute opacity averages result in a measurement greater than 20% opacity for No. 4 Recovery Furnace (Source Code 7040). [40 CFR 63.864(k)(~~2~~1)(i)]

Table 4-1
Proposed Revisions to TVOP No. 2631-185-0001-V-03-0 Conditions
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed Revisions to Existing Conditions
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	6.2.13	Following October 11, 2019 t~~T~~he Permittee shall implement ~~the~~ corrective action ~~plan as developed in Condition 6.2.14~~ if any of the following monitoring exceedances occur~~:~~ during times when spent pulping liquor or lime mud is fed (as applicable). Corrective action can include completion of transient startup and shutdown conditions as expediently as possible. Until October 11, 2019, corrective action must be as specified in the startup, shutdown, malfunction plan prepared under Condition 6.2.14. [40 CFR 63.864(k)(1)]
		6.2.17	The Permittee shall maintain records of any occurrence when corrective action is required by Condition 6.2.13 and when a violation is noted under Condition ~~6.1.7.b.vi.~~ 6.1.11. [40 CFR 63.866(b)]
		6.2.18	Until October 11, 2019, the compliance date for the October 11, 2017 40 CFR Part 63 Subpart MM revisions, ~~T~~the Permittee shall report quarterly if:

Table 4-2
Proposed New Conditions to TVOP No. 2631-185-0001-V-03-0
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed New Condition
6063	No. 4 Lime Kiln	3.3.48	Beginning October 11, 2019, the Permittee shall operate the No. 4 Lime Kiln (Source Code 6063) ESP's automatic voltage control according to the parameters established by the most recent performance test. [40 CFR 63.864(e)(1)]
7040	No. 4 Recovery Furnace	3.3.49	Beginning October 11, 2019, the Permittee shall operate the No. 4 Recovery Furnace (Source Code 7040) ESP's automatic voltage control according to the parameters established by the most recent performance test. [40 CFR 63.864(e)(1)]
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	4.2.21	The Permittee shall conduct an initial performance test for all pollutants and emissions sources subject to the limitations in Condition 3.3.26 by October 13, 2020. [40 CFR 63.863(c)(1)]
		4.2.22	Following the initial performance tests required by Condition 4.2.21, the Permittee shall perform repeat performance tests at five-year intervals for all emission sources subject to the limitations in 40 CFR 63.862. Performance tests shall be conducted based on representative performance of the affected source for the period being tested. The Permittee must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the Permittee shall make available to the Division such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.865]
		4.2.23	Beginning October 11, 2019, the Permittee shall submit performance tests results through CEDRI within 60 days after the date of completing each performance test. [40 CFR 63.863(c)(2)]

Table 4-2
Proposed New Conditions to TVOP No. 2631-185-0001-V-03-0
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed New Condition
7040	No. 4 Recovery Furnace	4.2.24	Beginning October 11, 2019, the Permittee shall conduct periodic performance testing of the No. 4 Recovery Furnace (Source Code 7040) using Method 308 as well as the methods in Conditions 4.1.3.s through 4.1.3.w to demonstrate compliance with Condition 3.3.10. [40 CFR 63.865(c)(1)]
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	5.2.31	On or before October 11, 2019, the Permittee must develop site-specific CMS data quality assurance procedures for applicable CMS, and if requested, submit it to the Administrator. The procedures must be kept on record for the life of the affected source or until the affected source is no longer subject to the provisions of 40 CFR Part 63 Subpart MM. If the performance evaluation plan is revised, the Permittee shall keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The protocol must contain the following: [40 CFR 63.864(f) and 40 CFR 63.8(d)]
		5.2.31.a	Site-specific performance evaluation test plan.
		5.2.31.b	Procedures for initial and subsequent calibration of the CMS.
		5.2.31.c	Procedures for the determination and adjustment of the calibration drift of the CMS.
		5.2.31.d	Preventative maintenance procedures, including a spare parts inventory.
		5.2.31.e	Procedures for data recording, calculations, and reporting.
		5.2.31.f	Accuracy audit procedures, including sampling and analysis methods.
		5.2.31.g	Program of corrective action for a malfunctioning CMS.

Table 4-2
Proposed New Conditions to TVOP No. 2631-185-0001-V-03-0
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed New Condition
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	5.2.32	Beginning October 11, 2019, the Permittee shall not use monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high level adjustments for use in calculating any data average computed under Subpart MM. [40 CFR 63.864(h)]
		6.1.10	The Permittee shall submit a semiannual excess emissions report for compliance with 40 CFR Part 63 Subpart MM to the US EPA CDX via CEDRI within 60 days of the end of the semiannual period. If the reporting form for the semiannual excess emissions report is not available in CEDRI at the time that the report is due, the Permittee shall submit the report to the Administrator at the appropriate addresses listed at 40 CFR 63.13. Semiannual excess emissions reports should contain the following information: [40 CFR 63.867(c), 40 CFR 63.867(d)(2)]
		6.1.10.a	For semiannual periods in which the excess emissions or process control system parameter exceedances is less than 1 percent of the total reporting period operating time, and CMS downtime is less than 5 percent of the total reporting period operating time, only the summary report is required to be submitted. This report will be titled "Summary Report – Gaseous and Opacity Excess Emissions and Continuous Monitoring System Performance." This report will contain the following information: [40 CFR 63.867(c)(1)]
		6.1.10.a.i	Company name and address and name of the affected facility.
		6.1.10.a.ii	Beginning and ending dates of the reporting period.
		6.1.10.a.iii	Identification of each process unit with the corresponding air pollution control device, being included in the semiannual report, including the pollutants monitored at each process unit, and the total operating time for each process unit.

Table 4-2
Proposed New Conditions to TVOP No. 2631-185-0001-V-03-0
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed New Condition
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	6.1.10.a.iv	Identification of the applicable emission limits, operating parameter limits, and averaging times.
		6.1.10.a.v	Identification of the monitoring equipment used for each process unit and the corresponding model number.
		6.1.10.a.vi	Date of the last CMS certification or audit.
		6.1.10.a.vii	An emission data summary, including the total duration of excess emissions (recorded in minutes for opacity and hours for gases), the duration of excess emissions expressed as a percent of operating time, the number of averaging periods recorded as excess emissions, and reason for the excess emissions.
		6.1.10.a.viii	A CMS performance summary, including the total duration of CMS downtime during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of CMS downtime expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total CMS downtime during the reporting period.
		6.1.10.a.ix	A description of changes to CMS, processes, or controls since last reporting period.
		6.1.10.a.x	A certification by a certifying official of truth, accuracy and completeness. This will state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Table 4-2
Proposed New Conditions to TVOP No. 2631-185-0001-V-03-0
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed New Condition
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	6.1.10.b	For semiannual periods in which the excess emissions or process control system parameter exceedances is greater than 1 percent of the total reporting period operating time, CMS downtime is greater than 5 percent of the total reporting period operating time, or any violations according to Conditions 6.1.11.a occur, information from Condition 6.10.a and the excess emissions and continuous monitoring system performance report must be submitted. This report will be titled "Excess Emissions and Continuous Monitoring System Performance Report." This report will contain the information specified in Conditions 6.1.10.a.i through 6.1.10.a.x, in addition to the following information: [40 CFR 63.867(c)(3)]
		6.1.10.b.i	An identification of the date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks.
		6.1.10.b.ii	An identification of the date and time identifying each period during which the CMS was out of control.
		6.1.10.b.iii	For COMS, the total number of 6-minute averages in the reporting period (excluding process unit downtime), the number of 6-minute averages in the reporting period that exceeded the relevant opacity limits in Conditions 6.1.11.a, and the percent of 6-minute averages in the reporting period that exceeded the relevant opacity limits. An identification of each exceedance by start and end time, date, and cause of exceedance (including startup/shutdown, control equipment problems, process problems, other known causes, or other unknown causes).

Table 4-2
Proposed New Conditions to TVOP No. 2631-185-0001-V-03-0
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed New Condition
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	6.1.10.c	In the event that the No. 4 Lime Kiln, No. 4 Recovery Furnace, or No. 4 Smelt Dissolving Tank (Source Codes 6063, 7040, and 7045) fail to meet an applicable standard in 40 CFR 63.862 or 40 CFR 63.864, the Permittee must report such events in the semiannual excess emissions report. The report shall include the information in Condition 6.2.48. [40 CFR 63.867(c)(4)]
		6.1.10.d	The Permittee may combine this reporting under the requirements of 40 CFR 63 Subpart MM with excess emissions reports or summary reports for the mill as required under 40 CFR 63 Subpart S. [40 CFR 63.867(c)(5)]
		6.1.11	For the purpose of reporting excess emissions in the semiannual report required in Condition 6.1.10, the following excess emissions shall be reported: [40 CFR 63.867(c)]
		6.1.11.a	Beginning on the compliance date of October 11, 2019, periods of monitoring exceedances will be a violation of 40 CFR 63 Subpart MM if the monitoring exceedances occur during times when spent pulping liquor or lime mud is fed (as applicable) and the total period of monitoring exceedance divided by the total process operating time, in a semiannual reporting period, exceeds Conditions 6.1.11.a.i. and 6.1.11.a.ii. [40 CFR 63.864(k)(2)(i) and 40 CFR 63.864(k)(2)(ii)]
6063	No. 4 Lime Kiln	6.1.11.a.i	No. 4 Lime Kiln (Source Code 6063) opacity greater than 20 percent, measured as a successive six-minute average, for 3 percent or more of the operating time within any semiannual period. [40 CFR 63.864(k)(2)(iii)]

Table 4-2
Proposed New Conditions to TVOP No. 2631-185-0001-V-03-0
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed New Condition
7040	No. 4 Recovery Furnace	6.1.11.a.ii	No. 4 Recovery Furnace (Source Code 7040) opacity greater than 20 percent measured as a successive six-minute average, for 2 percent or more of the operating time within any semiannual period. [40 CFR 63.864(k)(2)(ii)]
6063	No. 4 Lime Kiln	6.1.11.b	Beginning on the compliance date of October 11, 2019, any period when ten consecutive 6-minute opacity averages result in a measurement greater than 20% opacity for No. 4 Lime Kiln (Source Code 6063) during times when lime mud is fed. [40 CFR 63.864(k)(1)(i)]
7040	No. 4 Recovery Furnace	6.1.11.c	Beginning on the compliance date of October 11, 2019, any period when ten consecutive 6-minute opacity averages result in a measurement greater than 20% opacity for No. 4 Recovery Furnace (Source Code 7040) during times when spent pulping liquor is fed. [40 CFR 63.864(k)(1)(i)]
6063 and 7040	No. 4 Lime Kiln and No. 4 Recovery Furnace	6.2.15.e	Beginning October 11, 2019, records demonstrating compliance with Conditions 3.3.48 and 3.3.49. [40 CFR 63.866(c)(8)]
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	6.2.48	Beginning October 11, 2019, in the event that the No. 4 Lime Kiln, No. 4 Recovery Furnace, or No. 4 Smelt Dissolving Tank (Source Codes 6063, 7040, and 7045) fail to meet an applicable standard in 40 CFR 63.862 or 40 CFR 63.864, the Permittee must record the number of failures. For each failure, the Permittee is required to record and retain the following list of information: [40 CFR 63.866(d)(1) and 40 CFR 63.866(d)(2)]
		6.2.48.a	Date, start time, duration, and affected unit of each failure.

Table 4-2
Proposed New Conditions to TVOP No. 2631-185-0001-V-03-0
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed New Condition
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	6.2.48.b	For each failure to meet an emission limit in 40 CFR 63.862, estimate the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate emissions. [40 CFR 63.866(d)(2)(i)]
		6.2.48.c	For each failure to meet an operating limit in 40 CFR 63.864, maintain sufficient information to estimate the quantity of each regulated pollutant emitted over the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator. [40 CFR 63.866(d)(2)(ii)]
		6.2.48.d	Actions taken to minimize emissions and any corrective actions taken to return the affected unit to its normal or usual manner of operation. [40 CFR 63.866(d)(3)]

Table 4-3
Proposed TVOP No. 2631-185-0001-V-03-0 Conditions for Deletion
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed Condition for Deletion
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	6.1.8	The Permittee shall make an immediate report of any startup, shutdown, and malfunction (SSM) event for sources subject to 40 CFR Subpart MM in which the actions taken were not consistent with the written SSM plan and the source exceeds the relevant emission standard. The report shall be made within 2 working days of the event (by telephone, email or facsimile) and a follow-up report shall be made in writing within 7 days of the end of the event, as required by 63.6(e). [40 CFR 63.6(e)(3)(iv) and 63.10(d)(5)(ii)]
		6.1.9	Periodic Startup, Shutdown, and Malfunction (SSM) Reporting: [40 CFR 63.6(e)(3)(iii) and 40 CFR 63.10(d)(5)(i)]
		6.1.9.a	For sources subject to 40 CFR Subpart MM, when actions taken during a startup or shutdown (and the startup or shutdown causes the source to exceed the relevant emission standard), or a malfunction, as defined in 40 CFR 63.2, of an affected source occurs, and those actions were consistent with the SSM Plan, the periodic SSM report shall confirm that actions taken during the reporting period are consistent with the SSM Plan. The report shall summarize actions taken during such events to minimize emissions, along with the number, duration and brief description of each type malfunction that caused or may have caused an applicable emission limitation to be exceeded. Reports are only required if a startup or shutdown caused the source to exceed the emission standard or if a malfunction, as defined in 63.2, occurred during the reporting period.
		6.1.9.b	The periodic SSM reports shall be submitted semi-annually, if required, for the 6-months periods ending June 30 and December 31, and shall be postmarked no later than August 29 and February 28 respectively. The report shall consist of a letter containing name, title, and signature of the responsible official who is certifying its accuracy. All revisions to the SSM plan made during the reporting period shall be included in the semi-annual report.

Table 4-3
Proposed TVOP No. 2631-185-0001-V-03-0 Conditions for Deletion
PCA – Valdosta, GA Mill

Source ID	Source Description	TVOP Condition Number	Proposed Condition for Deletion
6063, 7040, and 7045	No. 4 Lime Kiln, No. 4 Recovery Furnace, and No. 4 Smelt Dissolving Tank	6.2.14	The Permittee shall develop and implement a written startup, shutdown, and malfunction plan (SSMP) that describes in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning processes, air pollution control equipment and monitoring equipment used to comply with 40 CFR 63 Subpart MM. In addition to the information required in 40 CFR 63.6(e)(3), the plan must also include the requirements in 40 CFR 63.866(a)(1) and (2). The plan shall be available for inspection or submittal to the Division when requested. [40 CFR 63.6(e)(3) and 40 CFR 63.866(a)]

40 CFR Part 64.2 of the CAM rule specifies the criteria for evaluating applicability, which includes that the unit uses a control device to achieve compliance with an emissions limit or standard for a

4.2 STATE OF GEORGIA REQUIREMENTS

PCA has evaluated the proposed project for State of Georgia air quality regulations, which are codified in G.A.C. 391-3-1. For the purpose of this application, potentially applicable State of Georgia regulations include:

- 391-3-1-.02(2)(b) – Visible Emissions
- 391-3-1-.02(2)(d) – Fuel-Burning Equipment
- 391-3-1-.02(2)(e) – Particulate Emissions from Manufacturing Processes
- 391-3-1-.02(2)(g) – Sulfur Dioxide
- 391-3-1-.02(2)(n) – Fugitive Dust
- 391-3-1-.02(2)(gg) – Kraft Pulp Mills
- 391-3-1-.02(7) – PSD of Air Quality
- 391-3-1-.02(8) – NSPS
- 391-3-1-.02(9) – Emissions Standards for Hazardous Air Pollutants
- 391-3-1-.02(11) – CAM
- 391-3-1-.03(1) – Construction (SIP) Permit

A discussion of specific State of Georgia requirements is provided in the following subsections.

4.2.1 391-3-1-.02(2)(b) – Visible Emissions

This section sets forth opacity limitations (less than 40%) for general manufacturing sources. The Paper Machine System is not subject to this requirement because it is not subject to any other emissions limitations under G.A.C. 391-3-1-.02(2). Following the proposed project, the Paper Machine System will not have new emissions limitations under G.A.C. 391-3-1-.02(2); therefore, the visible emissions requirements will not become newly applicable to the Paper Machine System. The emissions units at the Mill that are currently subject to this requirement will not be modified by the proposed project; therefore, the applicability of this rule to the emissions units at the Mill will not change, and the Mill will continue to comply with this opacity limit for currently applicable emissions units.

4.2.2 391-3-1-.02(2)(d) – Fuel-Burning Equipment

This section sets forth PM and opacity limitations for fuel-burning equipment. At the Valdosta Mill, the Riley Combination Boiler, C.E. Combination Boiler, Package Boiler, and No. 3 Power Boiler are currently subject to this requirement. The Package Boiler is being removed from service at the millas part of the proposed project; therefore, this rule will no longer be applicable to the Package Boiler. However, the remaining combination and power boilers will continue to be subject to this rule. As such, the Mill will continue to comply with the PM and opacity limits set forth in this standard for the Riley Combination Boiler, C.E. Combination Boiler, and No. 3 Power Boiler.

4.2.3 391-3-1-.02(2)(e) – Particulate Emissions from Manufacturing Processes

This rule sets forth PM emissions limitations from manufacturing processes. The Paper Machine System is not currently subject to this requirement and will not become subject to this requirement following the proposed project. The Mill will continue to comply with the PM emissions limitations for the other affected emissions units following completion of the proposed project.

4.2.4 391-3-1-.02(2)(g) – Sulfur Dioxide

This rule sets forth SO_2 emissions limitations for fuel-burning emissions units. At the Valdosta Mill, the Riley Combination Boiler, C.E. Combination Boiler, Package Boiler, and No. 3 Power Boiler are currently subject to this requirement. The Package Boiler is being removed from service at the mill as part of the proposed project; therefore, this rule will no longer be applicable to the Package Boiler. However, the remaining combination and power boilers will continue to be subject to this rule. As such, the Mill will continue to comply with the SO_2 limits set forth in this standard for the Riley Combination Boiler, C.E. Combination Boiler, and No. 3 Power Boiler.

4.2.5 391-3-1-.02(2)(n) – Fugitive Dust

This rule sets forth reasonable precautions that facilities must take in order to prevent dust from any operation, process, handling, transportation, or storage facility from becoming airborne. In addition, this rule states that the opacity from any fugitive dust source shall not equal or exceed

20%. The applicability of this rule to the Mill does not change as a result of the proposed project. As such, the Mill will continue to comply with this rule for all sources of fugitive dust.

4.2.6 391-3-1-.02(2)(gg) – Kraft Pulp Mills

This rule sets forth TRS emissions limitations for recovery furnaces, digester systems, multiple-effect evaporator systems, smelt dissolving tanks, and lime kilns. None of the Mill's emissions sources including the No. 4 Recovery Furnace, Digester Systems, Multiple Effect Evaporator, No. 4 Smelt Dissolving Tank, and No. 4 Lime Kiln will be modified by the proposed project; therefore, the applicability of this rule to the emissions units at the Mill will not change. As such, the Mill will continue to comply with the TRS limits set forth in this standard following completion of the proposed project.

4.2.7 391-3-1-.02(7) – PSD of Air Quality

The Valdosta Mill is a major stationary source as defined in 40 CFR §52.21(b) and referenced in G.A.C. 391-3-1-.02(7). As described in Section 3.1 of this submittal, the proposed project qualifies as a major modification pursuant to 40 CFR §52.21(b) and will result in a significant emissions increase for CO, NO_X, VOC, and CO_2e. Therefore, the project is subject to the PSD review requirements in G.A.C. 391-3-1-.02(7).

4.2.8 391-3-1-.02(8) – New Source Performance Standards

U.S. EPA has promulgated NSPS at 40 CFR Part 60. NSPS apply to new, reconstructed, or modified stationary sources. The Federal NSPS are incorporated by reference in G.A.C. 391-3-1-.02(8). The applicability of NSPS in 40 CFR 60, Subparts A, Db, and Dc, BB, and BBa is discussed in Section 4.1 of this submittal.

4.2.9 391-3-1-.02(9) – Emissions Standards for Hazardous Air Pollutants

U.S. EPA has promulgated the NESHAPs at 40 CFR Parts 61 and 63. The NESHAPs are incorporated by reference in Georgia Rule 391-3-1-.02(9). The applicability of NESHAPs in 40 CFR Part 63, Subparts A, S, MM, and DDDDD is discussed in Section 4.1.3 of this submittal.

4.2.10 391-3-1-.02(11) – Compliance Assurance Monitoring (CAM)

The CAM regulations, codified at 40 CFR Part 64, are adopted by reference in G.A.C. 391-3-1-.02(11). The applicability of CAM requirements is addressed in Section 4.1.4 of this submittal.

4.2.11 391-3-1-.03(1) – Construction (SIP) Permit

The SIP program is codified at G.A.C. 391-3-1-.03(1) and applies to all construction, operation and/or modification of process equipment, fuel burning equipment and/or air pollution control devices. The proposed project is a PSD modification and Title V/SIP construction permit application forms must be submitted. The Mill is complying with this requirement by submitting this PSD permit application and the appropriate GEOS forms in Appendix D.

5. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DEMONSTRATION

The BACT requirement is set forth in Federal regulations at 40 CFR §52.21(j) and incorporated by reference in G.A.C. 391-3-1-.02(7)(b)(7). The BACT demonstration must separately address air pollution control for each individual modified emissions unit for which a significant net emissions increase would occur. BACT does not apply to existing emissions units that will not undergo a physical change or change in the method of operation, or for emissions units that are not projected to have a net emissions increase (i.e., BACT does not apply to affected emissions units) pursuant to 40 CFR §52.21(j)(3).

As described in Section 3 of this narrative, the proposed project will have CO, NO_X, VOC, and CO_2e emissions increases that exceed the PSD significant thresholds. Therefore, the proposed project is subject to PSD requirements for these pollutants, and BACT must be applied for each modified emissions unit that will experience a net emissions increase of any of these pollutants because of the project. The only emissions unit modified as part of this project is the Paper Machine System; therefore the Paper Machine System is the only emissions unit undergoing a BACT analysis. The Paper Machine System will experience a net increase in VOC emissions only, so the BACT analysis will only examine VOC controls. While CO, NO_X, and CO_2e exceed PSD significant thresholds, the increases of these pollutants are due to affected sources, and therefore, these affected soruces are not subject to BACT for this project. Additionally, other regulated NSR pollutants that do not exceed the PSD significant thresholds for the proposed project are not subject to the BACT requirements. The following subsections contain the VOC BACT demonstration for the Paper Machine System.

5.1 BACT OVERVIEW

BACT demonstrations are case-by-case analyses that involve an assessment of the applicable control technologies capable of reducing emissions of a regulated NSR pollutant. As part of the assessment, the economic, energy, and environmental impacts of using each technology are evaluated using a five-step “top-down” approach outlined in Chapter B of the U.S. EPA Draft

"New Source Review Workshop Manual" dated October 1990 (1990 Workshop Manual).[1] Specifically, a top-down BACT analysis includes the following five basic steps:

- Step 1: Identify Available Control Technologies: Prepare a compilation of all potential control technologies available. The list should not exclude technologies implemented outside the United States.

- Step 2: Eliminate Technically Infeasible Options: Determine if any of the technologies identified in Step 1 are not technically feasible based on physical, chemical, and engineering principles.

- Step 3: Rank Remaining Control Technologies by Control Effectiveness: The remaining control technologies not eliminated in Step 2 are ranked in order of most effective (i.e., lowest emissions rate) to the least. Each technology is evaluated based on economic, environmental, and energy impacts.

- Step 4: Evaluate Economic, Environmental, and Energy Impacts of Technically Feasible Control Technologies: The information developed in Step 3 is objectively evaluated to determine whether economic, environmental, or energy impacts are sufficient to justify exclusion of the technology. The analysis begins with the top ranked technology and continues until the technology under consideration cannot be eliminated by any environmental, economic, and energy impacts that justify that the technology is inappropriate as BACT.

- Step 5: Identify BACT: The highest ranked remaining technology is identified as BACT.

PCA performed the BACT analysis for the Paper Machine System using the U.S. EPA Reasonably Available Control Technology (RACT)/BACT/Lowest Achievable Emissions Rate (LAER) Clearinghouse (RBLC) database to assess previous BACT determinations for similar sources. The Paper Machine System BACT review was limited to Kraft paper machine BACT listings in the past 15 years. A summary of applicable U.S. EPA RBLC entries is provided in Appendix B.

5.2 PAPER MACHINE SYSTEM VOC BACT DEMONSTRATION

For the proposed project, the Mill's Paper Machine System is required to apply BACT for controlling VOC emissions. VOCs can be emitted from the addition of VOC-containing chemical additives to the paper forming process. Additionally, other VOC emissions, primarily methanol,

[1] U.S. EPA, Draft New Source Review Workshop Manual, Prevention of Significant Deterioration and Nonattainment Area Permitting, October 1990 (1990 Workshop Manual).

are carried over from the pulp manufacturing process in the paper machine whitewater and can be released during paper forming. The potential VOC emissions for the Paper Machine System are provided in Table A-2 of Appendix A. This section presents the VOC BACT demonstration for the Mill's Paper Machine System.

5.2.1 Identify Available Control Technologies (Step 1)

The U.S. EPA's RBLC was researched to determine existing Kraft paper machines that had VOC control determinations. The search results yielded the following technologies that were adopted as BACT for Kraft paper machine VOC emissions:

- Use of Low-VOC Materials and Additives;
- Good Operating Practices (GOP);
- VOC Limits on Raw Materials;
- Use of Market Pulp; and
- New Substance Review Program, which uses lower VOC-containing chemicals if and/or when there is a chemical substitute available for currently used chemicals.

PCA considers the New Substance Review Program and the use of low-VOC materials and additives to be a part of the GOP for the Paper Machine System. Therefore, these technologies have been combined for this BACT demonstration as discussed in the following subsections.

Additionally, information was obtained from a paper machine VOC control technology evaluation conducted as part of a state SIP permitting effort for a Pennsylvania paper mill in 2016. That evaluation assessed add-on VOC controls for paper machines and included order-of-magnitude cost estimates that are transferrable to this BACT demonstration and are included herein[2]. Based on the information included in that evaluation, the following control technologies have been identified in addition to those listed above from the RBLC, as potentially available options for reducing VOC emissions from the Paper Machine System:

- Adsorption,

[2] KBR Engineering of NC, Inc. Appvion – Roaring Spring, PA Paper Machine Vents VOC Control Document No. F741-R005-PR-GEN-G10-0001, September 29, 2016.

- Biofiltration,
- Thermal Oxidation.

5.2.2 Eliminate Technically Infeasible Options (Step 2)

Three control technology options were considered to be technically infeasible, as described in the following subsection. The technically infeasible options are:

- VOC Limits on Raw Materials,
- Adsorption, and
- Biofiltration

Instead, the New Substance Review Program provides for the use of lower VOC-containing chemicals if and/or when there is a chemical substitute available for currently used chemicals. Therefore, GOP, Thermal Oxidation, and use of market pulp remain technically feasible options for the Mill.

5.2.2.1 VOC Limits on Raw Materials

The paper manufacturing process is sensitive to changes in chemistry since the final product must meet stringent customer specifications. Therefore, not all low-VOC and non-VOC chemicals perform as effectively as those VOC-containing chemicals they are intended to replace. The additives used at the Mill are carefully selected and optimized. Because putting VOC limits on raw materials could have adverse effects on the paper manufacturing process and the final product at the Mill, this option was determined to be technically infeasible.

5.2.2.2 Adsorption

There are low levels of PM in the exhaust gases vented from the Paper Machine System operations. These PM emissions would be problematic for operating a carbon adsorption system to reduce VOC emissions because the PM would impact the adsorption of VOC. Therefore, PM controls would be required prior to implementing a carbon adsorption control technology on to the paper machine to prevent PM in the gas stream from preventing the adsorption of VOC onto an activated carbon bed. Currently, there are no PM controls on the Paper Machine System and none are required for compliance purposes. Installing a carbon adsorption PM control would be both technically challenging and cost prohibitive given the extremely high volumetric gas flow rates.

Therefore, carbon adsorption is not considered to be a technically feasible control technology for VOC emissions from the Mill's Paper Machine System.

5.2.2.3 Biofiltration

Biofiltration has no known applications in the pulp and paper industry and is typically used for odor control. This technology has an excessive size requirement and, due to the layout of the Paper Machine System area, a biofiltration system would be too large to install. In addition, the presence of PM in the Paper Machine System exhaust streams could impact the performance of the biofilter medium by clogging the medium. For these reasons, biofiltration is considered to be a technically infeasible control of the VOC emissions from the Paper Machine System.

5.2.3 Rank Remaining Technically Feasible Control Technologies (Step 3)

The remaining technically feasible control options identified in Step 2 for the control of VOC emissions from the Paper Machine System have been ranked by their effectiveness in Table 5-1.

Table 5-1
VOC Control Technology Ranking for Paper Machine System

Control Technology Option	Control Efficiency	Ranking
Thermal Oxidation	90-99%	1
Good Operating Pratices	Varies	2
Use of Market Pulp	Varies	3

5.2.4 Evaluate Economic, Environmental, and Energy Impacts of Technically Feasible Control Technologies (Step 4)

The following subsections assess the economic, environmental and energy impacts of the three technically feasible control options.

5.2.4.1 Thermal Oxidation

Like the paper machines assessed in the referenced SIP application report, controlling the vent gases from the Paper Machine System would require collection of a large volume of exhaust gases having very low VOC concentrations from various locations prior to treatment in a regenerative

thermal oxidizer (RTO). The total combined gas flow for the Paper Machine System is 685,000 actual cubic feet per minute (acfm). The referenced SIP application report presented the estimated costs for an RTO for a paper machine with a total exhaust gas flow rate of 327,717 ACFM.

The results of the cost estimate for the Pennsylvania paper machine are presented in Table 5-2, and include the direct and indirect capital costs for the system (i.e., purchased equipment and installation costs). The cost estimate does not include any operating, maintenance, utility, or overhead costs associated with the operation of an RTO. Assuming a 10-year life expectancy for the RTO at a 7% interest rate, the annual capital recovery cost for $33.95 MM amounts to approximately $4.8 MM. Conservatively assuming these same equipment and installation costs for the Paper Machine System at the Valdosta Mill and without including any of the additional costs associated with operating the RTO, the cost effectiveness for controlling 90% of the potential 447.51 tpy of VOC amounts to over $12,000 per ton.

In consideration of the high capital costs associated with the RTO system and the relatively low concentration of approximately 1 part per million (ppm) of VOC emitted from the Paper Machine System, the actual cost effectiveness of RTO is expected to be well above that which would be considered economically feasible.

Table 5-2
Summary of Cost Estimate for Paper Machine System RTO Installation

Source Description	Exhaust Gas Flow into the RTO (acfm)	RTO Equipment Price	Auxiliary Equipment Price	Total Purchased Equipment Price	Installed Cost (Low end Estimate)
Paper Machine System	327,717	$9,700,000	$3,900,000	$13,600,000	$33,950,000

5.2.4.2 Good Operating Practices (GOP)

The Mill currently uses GOP for the Paper Machine System and a control cost analysis was not conducted for this control alternative. As stated above, GOP for the Paper Machine System already includes the use of low-VOC containing materials and additives as well as a New Substance

Review Program. GOP also includes regularly scheduled preventative maintenance on all of the associated Paper Machine System equipment. The Mill does not anticipate any additional economic, environmental, or energy impacts associated with this control technique.

5.2.4.3 Use of Market Pulp

A significant contributor to VOC emissions is the methanol that is carried through from pulp production to the paper making process. Using purchased market pulp could potentially lower VOC emissions if there is less methanol, and other VOC, in the purchased pulp than in the pulp that is produced by the Mill. There is no guarantee, however, that the VOC content will be lower. It is also not economically or environmentally feasible to purchase market pulp and ship it to the Mill in the quantities that are needed for the proposed production rates.

5.2.5 Proposed VOC BACT (Step 5)

The Mill is proposing VOC BACT for the Paper Machine System to be GOP to minimize VOC emissions. These GOP include: regularly scheduled preventative maintenance on all of the associated Paper Machine System equipment and systems, including venting system components, and before changing paper making additives performing an assessment to ensure that VOC components are consistent with, or lower than, current materials, to the extent pratical.

6. AIR QUALITY MODELING ANALYSIS

As described in Section 3 of this application, the proposed modification to the Mill's Paper Machine System will result in projected emissions increases that exceed the PSD significant emissions increase levels for CO, NO_X, VOCs, and CO_{2e}. Therefore, an air quality modeling analysis was required to demonstrate compliance with the CO and nitrogen dioxide (NO_2) NAAQS. A Toxics Impact Assessment was also required to demonstrate compliance with Georgia acceptable ambient concentrations (AACs) of emitted toxic air pollutants (TAPs). PCA has prepared this air quality modeling evaluation in accordance with Federal PSD and GEPD recommendations.

This section of the application has been developed to identify the air quality modeling procedures and technical information that were used to evaluate the air quality impacts from the project-related emissions. The following subsections related to the air quality modeling evaluation are included:

- **Section 6.1 – Air Quality Modeling Emissions Inventory Summary:** provides emissions inventories for the air quality modeling analyses that were evaluated as part of the PSD air permitting process (i.e., NAAQS, Class I, and air toxics analyses).
- **Section 6.2 – Air Quality Modeling Approach and Technical Information:** outlines the technical approach and the specific information that were used to conduct the air quality modeling analyses and demonstrate compliance with the various air quality standards (e.g., NAAQS, AAC, etc.).
- **Section 6.3 – Class I Analysis:** summarizes the air quality modeling approach that was used to address how project-related emissions affect air quality at Class I areas within 300 kilometers (km) of the Valdosta Mill.
- **Section 6.4 – Impacts Analysis:** describes the approach used to evaluate growth and the potential for adverse impacts on vegetation due to project-related emissions.
- **Section 6.5 – Air Quality Modeling Results:** provides the air quality modeling results with respect to the respective air quality standards.
- **Section 6.6 – References:** provides a listing of the references that were used in the process of developing this air quality modeling evaluation.

6.1 AIR QUALITY MODELING EMISSIONS INVENTORY SUMMARY

Several different emissions inventories were required as part of the air quality modeling evaluation. An inventory of project-related emissions was developed to evaluate the Significant Impact Levels (SILs) for pollutants with a significant increase (i.e., NO_X and CO). In addition, an air toxics emissions inventory was required for the air toxics analysis, as the modifications to the Paper Machine System result in an increase of TAPs emissions. This section of the application discusses the various emissions inventories and the physical stack characteristics that were considered as part of the air quality modeling evaluation.

6.1.1 Significant Impact Analysis Emissions Inventory

For the Significant Impact Analysis, project-related emissions from the modified and affected sources were used to model concentrations for comparison with the Class II SILs. For the modified and affected sources, the following emissions rates were determined:

- Post-Project Emissions Rates: The Mill used the annual average pound per hour (lb/hr) emissions rates derived from the PAE rates for all affected emissions units. For all modified units, the Mill used the annual average lb/hr emissions rates derived from the unit's post-modification PTE rates.

- Pre-Project Emissions Rates: The Mill used the actual annual average emissions rates from all the modified and affected emissions units from the 2016 and 2017 calendar years.

The delta between the post-project and pre-project emissions rates were modeled and the results compared to the SILs. The use of annual emissions increases represents a conservative assessment since it is anticipated that short-term emissions for the modified and affected emissions units will not be increasing as compared to historical short-term peak emissions rates from the respective emissions units. A summary of CO and NO_X project-related emissions are presented in Table 6-1. The SIL evaluation established a Significant Impact Area (SIA) for each pollutant and averaging time.

6.1.2 Air Toxics Emissions

The proposed project will result in the emission of small quantities of air toxics. An emissions inventory of TAPs that are included in Appendix A of the Georgia Guideline for Ambient Impact

Table 6-1
Significant Impact Level Emissions Inventory
PCA - Valdosta, GA Mill

Emissions Unit	Unit Project Status	Pollutant	Mill 2016-2017 Emissions (tpy)	Post Project Future Emissions (tpy)	Project-Related Emissions Increases (tpy)	Project-Related Emissions Increases (lb/hr)
No. 4 Lime Kiln	Affected	CO	2.26	2.53	0.27	0.06
		$PM_{2.5}$	11.81	13.23	1.42	0.32
		NO_X	28.80	32.26	3.45	0.79
No. 4 Recovery Furnace	Affected	CO	1,556	1,986	430.27	98.24
		$PM_{2.5}$	38.46	49.10	10.64	2.43
		NO_X	422.40	534.20	111.80	25.53
NCG Thermal Oxidizer	Affected	CO	3.95	4.66	0.72	0.16
		$PM_{2.5}$	0.14	0.13	--	--
		NO_X	72.81	87.99	15.18	3.47
Paper Machine	Modified	$PM_{2.5}$	11.29	13.31	2.02	0.46
Slaker	Affected	$PM_{2.5}$	0.66	0.74	0.08	0.02
Combination Stack (CERB)[(a)]	Affected	CO	1,597.30	4,088.66	2,491.36	568.80
		$PM_{2.5}$	81.75	90.98	9.23	2.11
		NO_X	500.02	519.59	19.56	4.47

(a) The C.E. and Riley combination boilers vent to a common stack, which is labeled CERB in the model files.

Assessment of TAPs (GEPD 2017b, GEPD Toxics Guideline) was prepared. The air toxic emissions rates have been calculated using NCASI emissions factors and the PAE throughput for each emissions unit. The PAE rates were then used to calculate short and long-term emissions rates. The PAE throughputs for each emissions unit correlate to the new paper production limit of 662,300 ODT/yr established by this permit application. A summary of the emissions rates modeled for each emissions unit at the Mill that emits a TAP is included in Appendix C. The Mill compared short term and long term predicted air toxics concentrations to the applicable AAC as specified in Appendix A of the GEPD Toxics Guideline.

6.1.3 Physical Stack Inventory

A summary of the physical stack characteristics that were used for those Mill emissions units included in the air quality modeling evaluations is provided in Table 6-2. Physical stack characteristics include information on stack dimensions, stack locations, and exhaust parameters.

6.2 AIR QUALITY MODELING APPROACH AND TECHNICAL INFORMATION

This section of the application contains information on the technical approach that was used for the respective air quality analyse, the air dispersion model selection, as well as the model options that were used. The supporting information that was used in each air quality analysis includes a building downwash analysis, meteorological data, and terrain data. Whenever possible, the guidance provided in 40 CFR Part 51 Appendix W "Guideline on Air Quality Models" (U.S. EPA 2017) was used to conduct the air quality analysis. Additional guidance provided in the draft "PSD Permit Application Guidance Document" (GEPD 2017a) was incorporated, as appropriate.

6.2.1 Air Dispersion Model Selection

The AERMOD (AERMIC MODel) air dispersion model was used to predict ambient air concentrations from the Mill. AERMOD is a 40 CFR Part 51 Appendix W air dispersion model approved for regulatory modeling applications. The current regulatory version of AERMOD is 18081.

Table 6-2
Summary of Physical Stack Characteristics
Packaging Corporation of America -- Valdosta, GA

Source	Emissions Point ID	X Coordinate (m) UTM (NAD 83)	Y Coordinate (m) UTM (NAD 83)	Stack-Base Elevation (m)	Stack Height (m)	Stack Temperature (K)	Stack Velocity (m/s)	Stack Diameter (m)	Stack Orientation
No. 4 Lime Kiln	#4LK	279,413.83	3,397,822.83	60.96	60.64	431.00	8.44	1.68	VERTICAL
No. 4 Recovery Furnace	#4RF	279,386.64	3,397,769.81	60.96	92.68	460.93	19.18	3.20	VERTICAL
No. 3 Power Boiler	PB3	279,315.97	3,398,041.23	60.96	54.56	408.15	17.68	2.13	VERTICAL
NCG Thermal Oxidizer	NCGTO	279,456.48	3,397,916.64	60.96	45.42	350.54	8.74	0.91	VERTICAL
C.E. and Riley Combination Boilers	CERB	279,280.70	3,398,058.02	60.96	61.26	335.37	14.10	3.35	VERTICAL
Tall Oil Reactor[(a)]	TOTNK	279,504.67	3,397,978.71	60.96	13.72	322.04	6.10	0.91	VERTICAL
Slaker	SLAKER	279,417.37	3,397,981.21	60.96	27.43	330.37	7.32	0.61	VERTICAL
Paper Machine System	PMS	279,208.00	3,398,015.00	60.96	24.88	325.00	10.24	7.40	VERTICAL

[(a)] The Tall Oil Reactor only emits VOCs. Therefore, this source is only included in air toxics modeling.

The AERMOD modeling system consists of two pre-processors and the dispersion model. AERMAP (Version 18081) is the terrain pre-processor component and AERMET (Version 18081) is the meteorological pre-processor component. The AERMAP pre-processor characterizes the surrounding terrain and generates receptor elevations. The AERMET pre-processor is used to generate an hourly profile of the atmosphere and uses a pre-processor, AERSURFACE (Version 13016), to process land use data for determining micrometeorological variables that are inputs to AERMET.

AERMOD has various user selectable options that must be considered. U.S. EPA has recommended that certain options be selected when performing air quality analysis studies for regulatory purposes. The following regulatory default options were used in the air quality analyse:

- Stack-Tip Downwash,
- Model Accounts for Elevated Terrain Effects,
- Calms Processing Routine Used,
- No Exponential Decay for Rural Mode,
- Missing Data Processing,
- ADJ_U*, and
- Ambient Ratio Method 2 (ARM2).

6.2.2 Land Use Analysis

A land use analysis for the 3-km area surrounding the Mill has been compiled. The land use analysis is based on the electronic 2011 National Land Cover Database (NLCD2011) for the area. Following 40 CFR Part 51 Appendix W guidance, the land use designation was based on the land use typing scheme developed by Auer (Auer 1978). Using the Auer land use classifications, developed high intensity (NLCD2011 Category 24) and developed medium intensity (NLCD2011 Category 23) are classified as urban land use while the remaining NLCD2011 categories are considered to be rural land use. If more than 50% of the land use within a 3-km radius of the Mill is rural, then a rural designation should be used in the air dispersion model.

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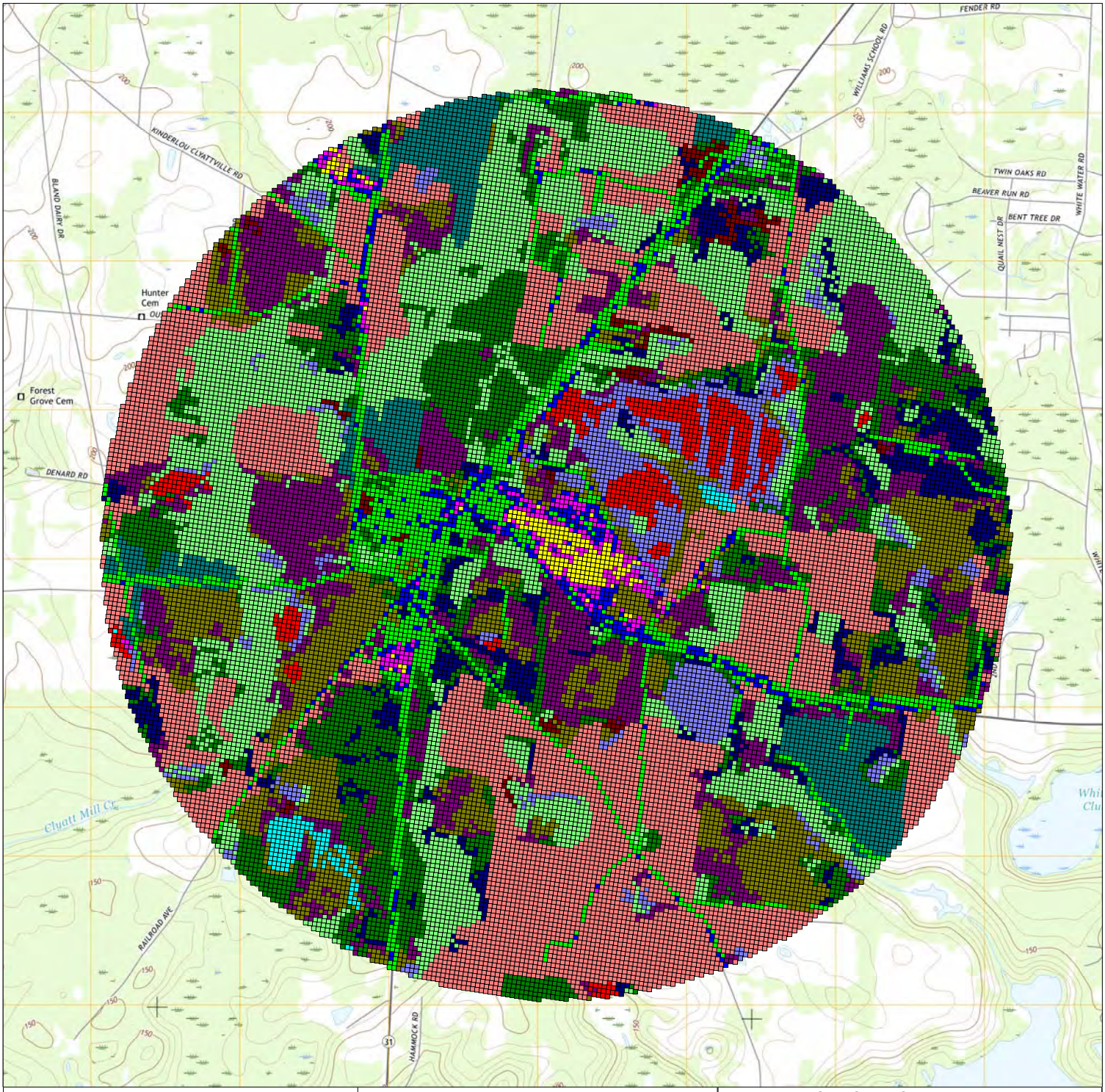
Geographical information system (GIS) software was used to summarize the various land use types contained in the NLCD2011 electronic land use dataset. Based on the GIS summary, the land use within a 3-km radius of the Mill is rural. Approximately 98.4% of the land use is rural with the remaining percentage of land classified as urban; therefore, the urban option was not selected in AERMOD. The 3-km radius land use summary for the area surrounding the Mill is shown in Figure 6-1.

6.2.4 Receptor Grid

The receptor grid for each air quality analysis covers a square area 20 km in length and width that is centered on the Mill. All receptors were referenced to the UTM coordinate system, Zone 17, using NAD83. Rectangular coordinates were used to identify each receptor location. The rectangular receptor grid has the following grid spacing:

- 100 m out to ± 2 km,
- 250 m out to ± 5 km, and
- 1,000 m out to ± 10 km.



Approximate quadrangle location

0 1.0 2.0

kilometers

Based on USGS 1:24,000 topographical map for Clyattville, GA 2016.

Packaging Corporation of America
Valdosta, GA

Figure 6-1
3-km Land Use Analysis Map

2011 National Land Cover Data

- Open Water (2.2%)
- Developed, Open Space (7.4%)
- Developed, Low Intensity (1.8%)
- Developed, Medium Intensity (0.9%)
- Developed, High Intensity (0.7%)
- Barren Land (Rock/Sand/Clay) (0.5%)
- Deciduous Forest (0.7%)
- Evergreen Forest (11.1%)
- Mixed Forest (4.6%)
- Shrub/Scrub (11.4%)
- Grassland/Herbaceous (9.9%)
- Pasture/Hay (4.0%)
- Cultivated Crops (22.0%)
- Woody Wetlands (18.5%)
- Emergent Herbaceous Wetlands (4.2%)

In addition to the main rectangular coordinate receptor grid, property line receptors were used in the air quality modeling analysis. The property line receptors were spaced approximately every 25 m. A plot of the inner portion of the receptor grid is shown in Figure 6-2.

Terrain elevations were assigned to all receptors. The AERMAP terrain pre-processor (Version 18081) and USGS 1:24,000 National Elevation Dataset (NED) files were used to determine representative terrain elevations for all of the receptors. The horizontal resolution of the NED data is every 10 m.

6.2.5 Ambient Air Boundary

Property line receptors were used in the air quality modeling analysis. The property line receptors were spaced approximately every 25 m. The Mill's ambient air boundary includes fencing, natural barriers (wooded areas and ponds), and controlled and patrolled areas. PCA limits public access to the areas of the property that do not restrict access using fences, gates, or no trespassing signs by patrolling the property routinely. Therefore, PCA does not consider this area ambient air and did not include receptors in these locations. PCA has detailed the areas of their property line that are fenced, gated, or contain no trespassing signs in Figure 6-3.

6.2.6 Meteorological Data

The meteorological data for the air quality modeling studies consists of five years of meteorological data from the Valdosta Regional Airport (WBAN 93845 or international call sign KVLD) National Weather Service (NWS) station and upper air data from Tallahassee, FL (WMO ID 72214 or international call sign KTLH) from the same period. The Mill used the most recent meteorological dataset processed by GEPD with the ADJ_U* option, which includes data from January 1, 2013 through December 31, 2017.

6.2.7 Meteorological Data Representativeness

The KVLD meteorological station is located 10 km to the north-northeast of the Mill. The meteorological data at the station includes wind speed and wind direction measurements collected from sensors mounted at the 10 m level on the meteorological tower. In addition, temperature,

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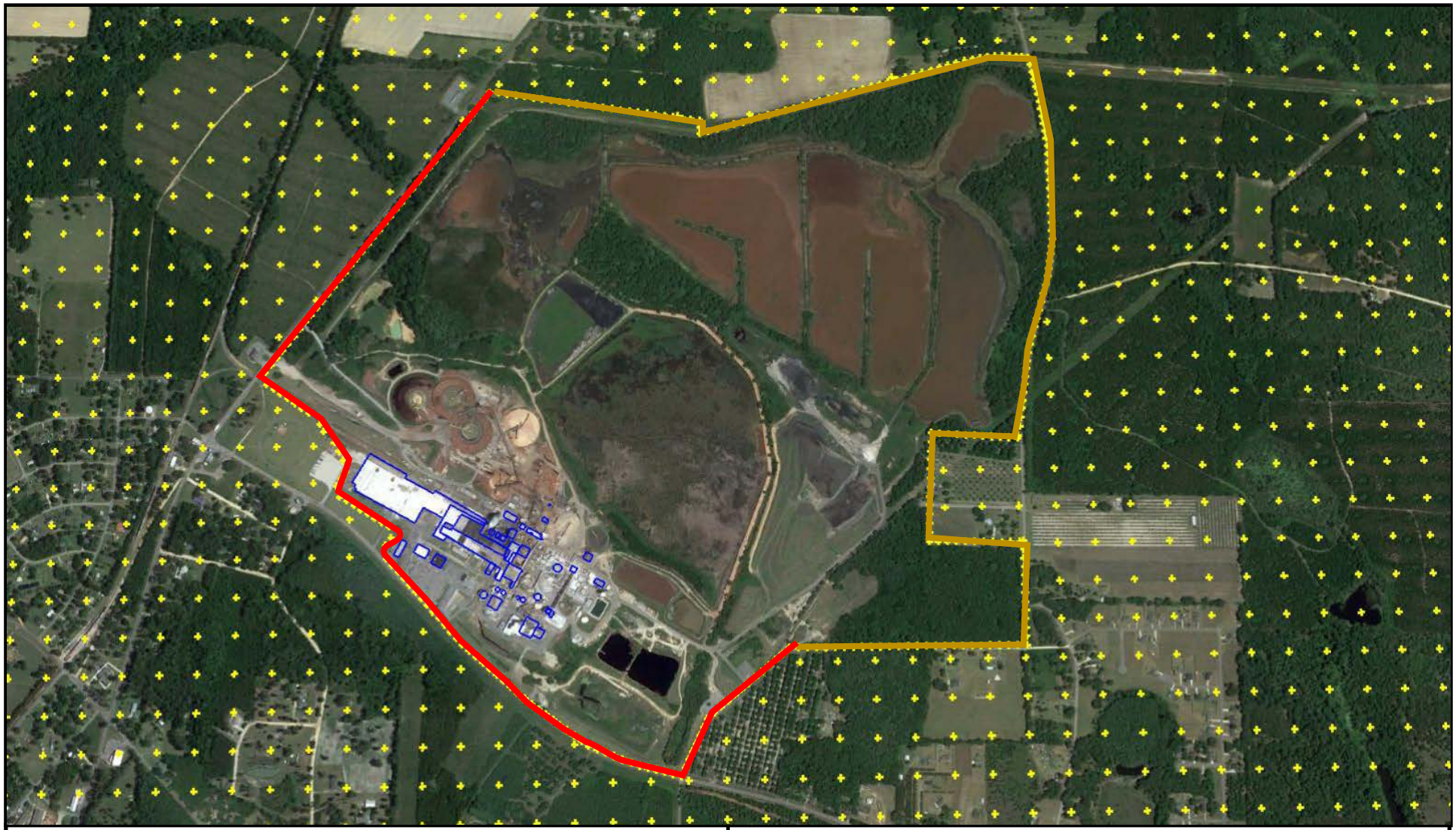
Figure 6-2
Inner Receptor Grid



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Valdosta, GA

Figure 6-3
Mill Ambient Air Boundary

pressure, relative humidity, precipitation, and cloud cover are collected at the meteorological tower. KVLD is the appropriate NWS for Lowndes County according to the GEPD website. Therefore, it is reasonable to consider the KVLD dataset representative of the meterological conditions at the Mill. Further documentation of the representativness is provided in the following paragraph.

Based on U.S. EPA 40 CFR Part 51, Appendix W guidelines, data representativeness is determined based on the period of time for the data used, the proximity of the two locations, and the complexity of terrain at both sites. The dataset used for this meteorological data representativeness evaluation was provided by GEPD and spans from 2013 to 2017, which is the most recent five years of available data. The 2013-2017 dataset meets the minimum 90% data completeness by quarter requirement.

The topography between the Mill and the KVLD meteorological tower can generally be characterized as flat terrain with wooded and farming areas between the Mill and KVLD. The Mill and KVLD only differ in elevation by 1 m amsl.

The winds at KVLD are primarily southwesterly with sedondary distribution of winds from the northeast and northwest. Since there are no major topographic features between the Mill and KVLD, or directly surrounding either site, the wind patterns are expected to be similar at both sites.

Due to the close proximity and the common surrounding terrain features, the KVLD data meet the geographic setting criteria for being considered a representative dataset for the Mill. In addition, because of the proximity of the Mill to KVLD and similar surrounding land use characteristics, the albedo, Bowen ratio, and surface roughness are all comparable between the two sites. The outputs of the AERSURFACE program quantifying the albedo, Bowen ratio and surface roughness for both sites is included in Appendix C. Therefore, the data from the KVLD meteorological tower can be considered a representative dataset for the air quality modeling analysis of the Mill.

6.2.8 Good Engineering Practice Stack Height Analysis

Stacks at the Mill were analyzed for the potential influence of building downwash on emissions and resulting ambient concentrations. Guidance contained in the U.S. EPA "Guideline for Determination of Good Engineering Practice (GEP) Stack Height (Revised)" and the U.S. EPA Building Profile Input Program for PRIME (Version 04274) was followed. To perform the building downwash analysis, a Mill plot plan showing the buildings, structures, and stacks was digitized using GIS software. Heights of all the buildings and structures that were digitized were confirmed by Mill personnel. Large, circular tanks were included in the digitization process. Buildings with multiple tiers were digitized as a single building with multiple tiers rather than multiple buildings with a single tier. Additionally, low height buildings were excluded from the analysis unless there was a stack within the influence area of the building (i.e., within five times the height or projected width of the building). The result of the GIS digitization process is shown in Figure 6-4. A Mill plot plan is included for comparison purposes in Appendix C. The stack heights are less than GEP formula height; therefore, no stack height restriction will be necessary in the air quality modeling analyses.

6.2.9 Pre-Construction Monitoring

The proposed project is considered a major modification for NO_X and VOC. Both pollutants are a precursor for ozone, so the Mill is potentially subject to pre-construction monitoring requirements for ozone. The Mill proposes that pre-construction monitoring for ozone will not be necessary for the proposed project because of the proximity of several ambient air monitoring stations around the Mill.

PCA reviewed ozone data from several ambient monitoring stations around the Mill to determine ozone concentrations in the vicinity of the Mill. A summary of the 4th highest 8-hour ozone concentrations and the 8-hour ozone design value from the last three years for the three closest sites to the Mill is provided in Table 6-3. The 8-hour ozone NAAQS is 0.070 ppm determined from the annual fourth-highest daily maximum 8-hour concentration, averaged over three years.

Structure Location

Source Location

0 100 200

Meters

N

Coordinate Datum: UTM NAD 83 Zone 17

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Valdosta, GA

Figure 6-4
Building Downwash

Table 6-3
4th Highest 8-Hour Ozone Concentration Summary (ppm)

Monitor	Distance (km)	2015	2016	2017	3-Year Design Value
Leslie, GA	145	0.057	0.065	0.058	0.060
Tallahassee, FL	108	0.061	0.061	0.063	0.062
Lake City, FL	98	0.058	0.061	0.062	0.060

Given the existing ozone monitor network around the Mill, and that the areas surrounding the Mill are in compliance with the NAAQS, there is no reason to install additional ozone monitoring at the Mill. In addition, this application provides a Modeled Emission Rates for Precursors (MERP) analysis of the ozone forming precursors emitted by the project in Section 6.2.11. This analysis has found that the project will not contribute to a significant increase in 8-hour ozone concentrations.

6.2.10 NO_2 Air Quality Modeling Approach

PCA utilized the default AERMOD ARM2 option for the analysis of NO_2. PCA also used the default settings for the NO_2/NO_X ratio with a minimum value of 0.5, and a maximum of 0.9.

6.2.11 Evaluation of Ozone and $PM_{2.5}$ Secondary Formation Precursor Emissions

The 2017 amendments to 40 CFR Part 51 Appendix W require an evaluation of the potential for ozone formulation based on the emissions rates of VOCs and NO_X, both of which are precursor pollutants for ozone. In addition, NO_X is a precursor pollutant for the formation of $PM_{2.5}$. The proposed project will be significant for NO_X and VOC emissions, and therefore, a discussion of the potential for the NO_X and VOC emissions to form ozone and $PM_{2.5}$ is included in this section.

To evaluate the impact of precursor emissions rates on ozone formation, 40 CFR Part 51 Appendix W discusses the option to use MERPs. U.S. EPA released draft guidance that details methods to use MERPs as a Tier 1 approach to demonstrate the potential for ozone formation from precursor emissions in December 2016 (U.S. EPA 2016).

Section 7 of the draft guidance includes examples of a MERP Tier 1 demonstration that is based on the U.S. EPA modeling assessments of precursors from representative photochemical grid modeling. The modeling assessments cover several example PSD permit scenarios. GEPD has reviewed U.S. EPA's guidance and released Georgia-specific guidance in their document "Guidance on the Use of EPA's MERPs to Account for Secondary Formation of Ozone and $PM_{2.5}$ in Georgia" (GEPD 2018). In order to assess the potential for ozone and $PM_{2.5}$ impacts from the proposed project's precursor emissions, an evaluation based on the GEPD guidance is provided below.

The projected increase in VOC emissions from the proposed project is calculated to be 167.22 tpy, which is above the PSD Significant Emissions Rate (SER). The projected increase in NO_X emissions from the proposed project is calculated to be 111.85 tpy. From Table 2 of the GEPD ozone and $PM_{2.5}$ guidance, the most conservative state-wide MERP value for 8-hour ozone is 3,980 tpy for VOC, and 156 tpy for NO_X.

The projected VOC increase of 167.22 tpy is well below the Georgia MERP value of 3,980 tpy for the VOC precursor, and the NO_X increase of 111.85 tpy is also below the Georgia MERP value of 156 for the NO_X precursor. Using Equation 2 of the Georgia ozone and $PM_{2.5}$ guidance document:

$$\frac{EMIS\_NOx}{MERP_{NOx}} + \frac{EMIS_{VOC}}{MERP_{VOC}} < 1$$

$$\frac{111.85 \text{ tpy}}{156 \text{ tpy}} + \frac{167.22 \text{ tpy}}{3{,}980 \text{ tpy}} = 0.76 < 1$$

Therefore, cumulative air quality impacts of ozone precursor emissions from the proposed project are not expected to increase the critical air quality threshold for ozone, as the additive secondary impacts on 8-hour daily ozone concentrations are calculated to be less than 1 part per billion (ppb). A cumulative analysis of ozone precursor emissions was not required for secondary 8-hour ozone formation.

To evaluate the 24-hour $PM_{2.5}$ SIL for secondary formation, Equation 4 of the Georgia ozone and $PM_{2.5}$ guidance document was used because the primary $PM_{2.5}$ emissions increase from the project is calculated to be 9.9 tpy, which is less than the $PM_{2.5}$ SER, however the project-related NO_X

emissions are above the PSD SER. Also, the SO_2 emissions increase from the project is calculated to be 34.72 tpy, which is less than the PSD SER. For daily $PM_{2.5}$, the NO_X MERP is 4,014 tpy, and the SO_2 MERP is 667 tpy. From Equation 4:

$$\frac{EMIS\_PM2.5}{SER\_PM2.5} + \frac{EMIS_{NOx}}{MERP_{NOx}} + \frac{EMIS_{SO2}}{MERP_{SO2}} < 1$$

$$\frac{9.9 \text{ tpy}}{10 \text{ tpy}} + \frac{111.85 \text{ tpy}}{4{,}014 \text{ tpy}} + \frac{34.72 \text{ tpy}}{667 \text{ tpy}} = 1.07 > 1$$

To evaluate the annual $PM_{2.5}$ SIL for secondary formation, Equation 4 is again used. The annual $PM_{2.5}$ NO_X MERP is 7,427 tpy, and the SO_2 MERP is 6,004 tpy.

$$\frac{9.9 \text{ tpy}}{10 \text{ tpy}} + \frac{111.85 \text{ tpy}}{7{,}427 \text{ tpy}} + \frac{34.72 \text{ tpy}}{6{,}004 \text{ tpy}} = 1.01 > 1$$

Both the 24-hour and annual $PM_{2.5}$ SIL for secondary formation are greater than 1. Therefore, SIL modeling with AERMOD was required for both averaging periods to further evaluate the $PM_{2.5}$ SIL.

From the $PM_{2.5}$ SIL modeling, the highest modeled concentration for the 24-hour averaging period was found to be 0.44 µg/m^3, and for the annual averaging period it was found to be 0.06 µg/m^3. These concentration values are used in Equation 3 of the GEPD guidance:

$$\frac{HMC_{PM2.5}}{SIL_{PM2.5}} + \frac{EMIS_{SO2}}{MERP_{SO2}} + \frac{EMIS_{NOx}}{MERP_{NOx}} < 1$$

For the 24-hour averaging period:

$$\frac{0.44 \ \frac{\mu g}{m^3}}{1.2 \frac{\mu g}{m^3}} + \frac{34.7 \ tpy}{667 \text{ tpy}} + \frac{111.85 \ tpy}{4{,}014 \text{ tpy}} = 0.45 < 1$$

For the annual averaging period:

$$\frac{0.06\ \frac{\mu g}{m^3}}{0.2\ \frac{\mu g}{m^3}} + \frac{34.7\ tpy}{6{,}004\ \text{tpy}} + \frac{111.85\ tpy}{7{,}427\ \text{tpy}} = 0.32 < 1$$

The Class I $PM_{2.5}$ SIL was also evaluated for secondary formation of $PM_{2.5}$ from precursors using the same procedure outlined in Section 6.3.2. The highest modeled concentration of 24-hour $PM_{2.5}$ for the Class I screening analysis was 0.014µg/m^3, and for the annual averaging period it was 0.0014 µg/m^3. From Equation 3:

For the 24-hour averaging period:

$$\frac{0.014\ \frac{\mu g}{m^3}}{0.07\ \frac{\mu g}{m^3}} + \frac{34.7\ tpy}{667\ \text{tpy}} + \frac{111.85\ tpy}{4{,}014\ \text{tpy}} = 0.28 < 1$$

For the annual averaging period:

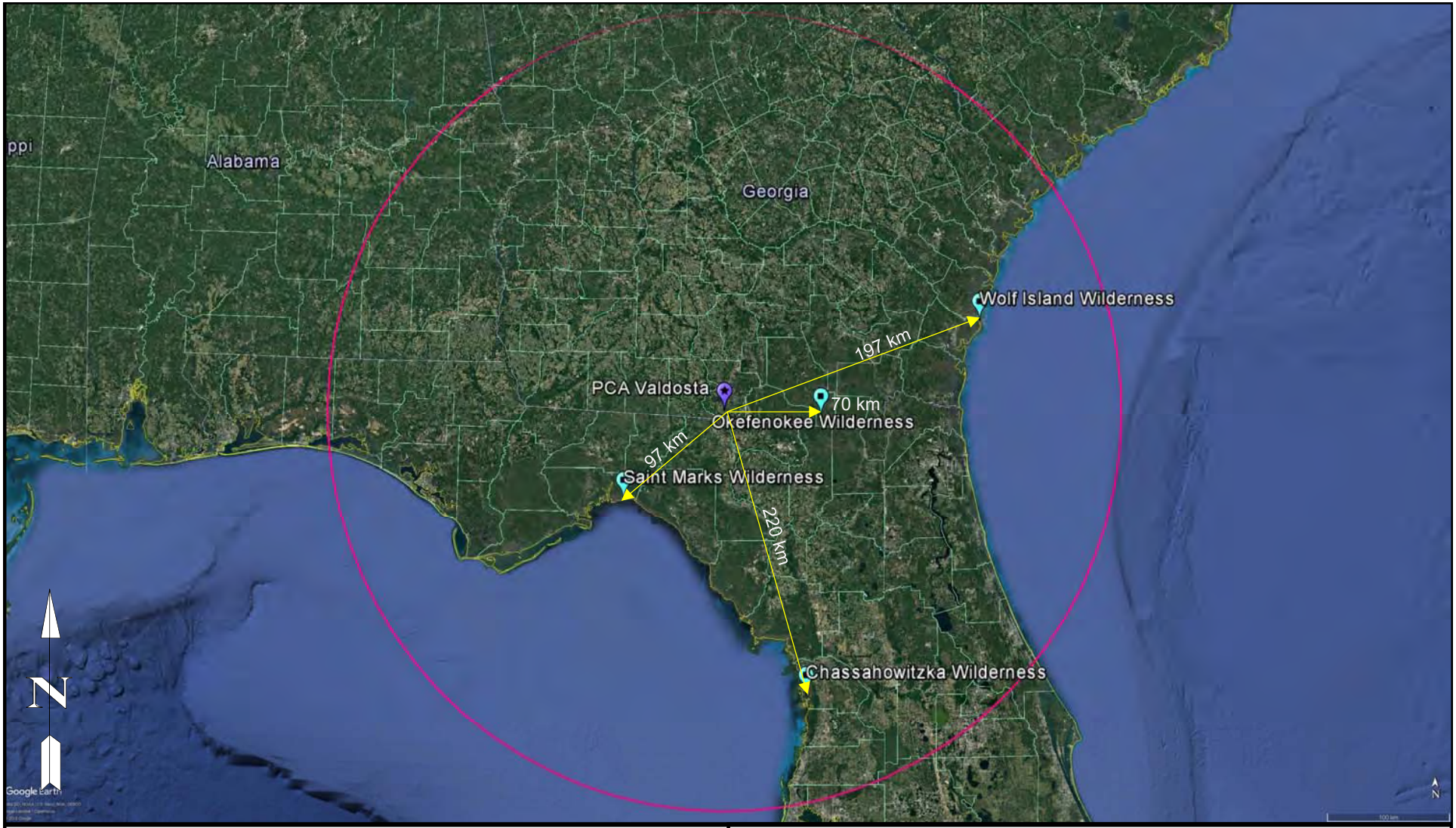
$$\frac{0.0014\ \frac{\mu g}{m^3}}{0.06\ \frac{\mu g}{m^3}} + \frac{34.7\ tpy}{6{,}004\ \text{tpy}} + \frac{111.85\ tpy}{7{,}427\ \text{tpy}} = 0.04 < 1$$

Based on this analysis, the 24-hour and annual contribution from secondary $PM_{2.5}$ is less than one, and therefore secondary $PM_{2.5}$ from NO_X and SO_2 precursors will not cause a violation of the 24-hour or annual Class I or Class II $PM_{2.5}$ NAAQS for this project.

6.3 CLASS I ANALYSES

There are four Class I areas located within 300 km of the Mill. Therefore, an analysis of Class I Air Quality Related Values (AQRV) and Class I PSD increments was required. A figure showing the distance and direction to the Class I areas listed below is provided in Figure 6-5:

- Okefenokee Wilderness – 70 km
- Saint Marks Wilderness – 97 km
- Wolf Island Wilderness – 197 km
- Chassahowitzka Wilderness – 220 km



300 km radius from Mill

0 150 300
Kilometers

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Valdosta, GA

Figure 6-5
Class I Areas

The following subsections summarize how the Class I AQRVs and PSD increments were evaluated.

6.3.1 Class 1 Air Quality Related Values Analysis

PCA has submitted a "Request for Applicability of Class I Area Modeling Analysis" to the U.S. Fish and Wildlife Service (FWS) for the Class I Wilderness Areas listed above. PCA used the "Q/d" approach to evaluate whether a full Class I AQRV evaluation was required for the proposed project. Using this approach, "Q" is equal to the annualized maximum 24-hour emissions rate of PM_{10}, SO_2, NO_X, and sulfuric acid mist (SAM) in tpy, and "d" is the distance from the Mill to the Class I Wilderness Areas. The resulting Q/d ratios were less than 10. The Q/d values for the four Class I areas were provided to the FLM. Because the Q/d ratios are less than the screening threshold of 10 set by the FLMs in the most recent FLM AQRV Workgroup (FLAG) document (FLM 2010), no Class I AQRV evaluation was required as part of the proposed project for the Class I areas. Correspondence between PCA and the Federal Land Manager (FLM) regarding the Q/d screening is provided in Appendix C.

6.3.2 Class I Increment Screening Analysis

A Class I increment analysis is required as part of the application. For the Class I increment screening, PCA used AERMOD as the screening air dispersion model and placed receptors 50 km from the Mill downwind direction pointing towards each Class I area. The receptors were placed along an arc, with receptors placed 1 km apart and spaced 10 degrees on either side of the direction vector. PCA evaluated annual NO_2 concentrations from the project-related emissions increases shown in Table 6-1. The effects of building downwash were not included in the Class I increment screening analysis per GEPD PSD modeling guidance. The highest annual NO_2 concentration predicted at the Class I screening receptors was 0.01 $\mu g/m^3$ and is less than the annual NO_2 Class I SIL of 0.10 $\mu g/m^3$ and no further analysis was required.

6.4 IMPACTS ANALYSIS

A discussion of the impacts of the proposed project on the area surrounding the Mill is provided below. As part of this discussion, the potential growth resulting from the proposed project is estimated. Additionally, impacts on soil and vegetation are qualitatively addressed below.

6.4.1 Growth Analysis

The proposed project is not expected to contribute to significant growth at the Mill and surrounding area. PCA does not anticipate that the proposed project will require any additional employees. Furthermore, there is no anticipated increase in local industrial growth or population due to this project.

6.4.2 Adverse Impacts on Vegetation

Vegetation can be impacted from the emissions of excessive amounts of common atmospheric pollutants such as SO_2, NO_X, CO, HF, hydrocarbons, particulates and metals (Malhotra and Khan, 1984). In general, however, the main atmospheric pollutants that affect vegetation are nitrogen-based, sulfur-based, and ozone, with ozone causing more damage to plants than all other air pollutants combined (ARS, 1999). The sensitivity of vegetation to atmospheric pollution varies greatly with such factors as plant species and variety, climatic and seasonal conditions, soil composition, the concentration and duration of exposure, and the nature of combinations of pollutants (Treshow, 1984; Whitmore, 1985).

A summary of research on air pollution effects on vegetation divides air pollution injuries to plants into three general categories: acute, chronic, and subtle (Treshow, 1984). Acute injury is caused by exposure to a high concentration of a substance resulting in rapid visible death of some tissue. Chronic injury is caused by long-term exposure to low pollutant levels which gradually disrupts physiological processes and slows growth or yield (Hicks, 1978). The subtle effects of air pollution on vegetation are difficult to quantify since the threshold concentrations and exposure times that may cause subtle damage are difficult to define. PCA has specifically addressed VOC emissions as the PSD-triggering pollutant for the proposed project.

Potential damage to vegetation in the area surrounding the Mill from VOC emissions as a precursor to ozone is unlikely. In general, acute damage to vegetation is not likely to occur at ambient air concentration levels below the 8- hour ozone NAAQS. As discussed Section 6.2.11, ozone impacts from the proposed project will not result in an increase to the critical air quality threshold of 1.0 part per billion, which is equivialent to the ozone significant impact level. Adverse effects on vegetation from VOC emissions as a precursor to ozone are not expected to occur.

6.5 AIR QUALITY MODELING RESULTS

This section of the application discusses the results from the air quality modeling analyses.

6.5.1 Significant Impact Level Analysis

The air quality modeling analysis initially assessed if emissions from the proposed project result in CO or NO_2 concentrations that are greater than the PSD Class II SILs. The Class II PSD SILs and the results of the SIL air quality modeling analysis are summarized in Table 6-4. For the SIL analysis, the modeled concentrations for the five years of meteorological data were reviewed. As shown in the table, the CO modeled concentrations for both averaging periods are less than their respecting Class II PSD SILs. Therefore, no further Class II air quality modeling analyses were required for CO. The NO_2 modeled concentrations for both the 1-hour and annual averaging periods were was also less than the PSD Class II SILs. Therefore, an evaluation of the 1-hour and annual NO_2 NAAQS and the NO_2 PSD Increment analysis were not required as concentration due to project-related emissions increases are less than the NO_2 SIL.

Table 6-4
Class II PSD Significant Impact Levels

Pollutant	Averaging Period	SIL (µg/m^3)	Modeled Concentration (µg/m^3)
CO	Highest First-Highest 1-Hour Concentration	2,000	226.93
	Highest First-Highest 8-Hour Concentration	500	107.40
NO_2	Five Year Average of Daily Maximum 1-Hour Concentrations	7.5	5.33
	Maximum Annual Concentration	1	0.23

6.5.2 Toxic Impact Assessment Results

An air toxics analysis was conducted following the guidance contained in GEPD's "Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions" (GEPD 2017b, Toxics Guideline). The air toxics analysis used AERMOD to predict short-term and long-term ambient air concentrations at off-property receptor locations, following Step 4 of the Toxics Guideline. Table

C-1 provides a list of the TAP emissions rates that were modeled, and Table C-2 provides the results of the air toxics modeling analysis compared against the relevant short and long term AAC. The air toxics modeling analysis determined that the Mill-wide air toxics emissions would not result in modeled concentration levels that exceed the respective AAC for each pollutant and time period modeled, except for the long term acrolein averaging period. Modeled 1-hour concentrations at all receptors in the receptor grid were found to be less than the 15-minute short term average AAC for acrolein. The 15-minute short term average AAC was calculated from the modeled 1-hour concentrations using a factor of 1.32, as specified in the GEPD Toxics Guidance. Results of the Toxics Impact Assessment are presented in Appendix C.

For demonstrating compliance with the annual ACC for acrolein, Step 6 of the Toxics Guidance was followed, and a site specific risk analysis was done. Sensitive receptors were placed at residential locations near the Mill, and modeled annual concentrations were compared against the annual AAC value for acrolein. The maximum modeled annual average ground level concentration was 0.019 $\mu g/m^3$, which is below the AAC of 0.02 $\mu g/m^3$. The results of the site specific risk analysis are presented in Table C-3 of Appendix C.

6.6 REFERENCES

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APPENDIX A –
EMISSIONS INVENTORY SUPPORTING INFORMATION

Table A-1
Summary of Baseline Actual Emissions
Packaging Corporation of America - Valdosta Mill

Source	Baseline Emissions Rates (tpy)												
	PM filterable	PM_{10}	$PM_{2.5}$	NOx	SO_2	CO	VOC	Pb	TRS	H_2S	H_2SO_4	CO_2e	Total GHG
1005 Riley Combination Boiler	101.66	96.60	63.17	347.69	15.68	2,804	41.26	5.11E-02	--	--	7.10E-02	266,385	262,859
1006 C.E. Combination Boiler	56.94	54.20	35.45	197.62	8.44	1,587	22.40	2.84E-02	--	--	3.40E-02	150,067	148,072
1058 Package Boiler	--	--	--	--	--	--	--	--	--	--	--	--	--
7040 No. 4 Recovery Furnace	30.36	44.73	39.86	420.18	110.66	1,602	79.76	(a)	11.97	11.97	6.22	776,306	774,941
6063 No. 4 Lime Kiln	13.09	16.63	11.03	28.77	0.17	2.21	2.14	4.40E-04	0.53	0.53	4.01E-02	36,541	36,484
7045 No. 4 Smelt Dissolving Tank[(b)]	--	--	--	--	--	--	--	--	--	--	--	--	--
6025 Slaker	1.29	1.17	0.65	--	--	--	--	--	--	--	--	--	--
6076 Thermal Oxidizer	2.79E-02	0.11	0.11	(c)	16.45	3.71	0.90	--	0.14	0.14	1.47	--	--
G016 No. 3A Brown Stock Washer System	--	--	--	--	--	--	--	--	--	--	--	--	--
G039 No. 4 Chemiwasher System	--	--	--	--	--	--	--	--	--	--	--	--	--
8009 Tall Oil Reactor Tank	--	--	--	--	--	--	4.49	--	25.53	25.53	--	--	--
G037 Digesters 1-9 System	--	--	--	13.95	--	--	--	--	--	--	--	--	--
G038 Digester 10 System	--	--	--	1.74	--	--	--	--	--	--	--	--	--
G040 Multiple Effect Evaporator	--	--	--	17.44	--	--	--	--	--	--	--	--	--
G033 Turpentine System	--	--	--	1.74	--	--	--	--	--	--	--	--	--
4336 Condensate Stripper	--	--	--	35.18	--	--	--	--	--	--	--	--	--
G014 Paper Machine System	7.56	12.42	10.60	--	--	--	381.29	--	--	--	--	--	--
GG14 Paper Machine - Wet	--	--	--	--	--	--	60.39	--	--	--	--	--	--
G036 HD Tanks	--	--	--	--	--	--	--	--	--	--	--	--	--
4300 Black Liquor Pond	--	--	--	--	--	--	5.85E-02	--	--	--	--	--	--
G008 Chip Screen	5.96	0.60	--	--	--	--	--	--	--	--	--	--	--
G010 Chip Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
G006 Bark Handling	2.80	1.40	--	--	--	--	--	--	--	--	--	--	--
G011 Bark Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
Roadways	3.65	0.73	0.18	--	--	--	--	--	--	--	--	--	--
Drop Points - Chips	13.18	0.17	2.94E-02	--	--	--	--	--	--	--	--	--	--
Drop Points - Bark	32.18	0.54	0.24	--	--	--	--	--	--	--	--	--	--
G030 Wastewater Treatment Plant	--	--	--	--	--	--	160.11	--	5.57	5.57	--	--	--
HVLC Combustion	--	--	--	--	3.78	--	0.42	--	--	--	--	--	--
Baseline Periods	**June-12 May-14**	**July-12 June-14**	**July-12 June-14**	**March-12 February-14**	**January-15 December-16**	**March-12 February-14**	**January-16 December-17**	**January-09 December-10**	**March-12 February-14**	**March-12 February-14**	**September-12 August-14**	**July-12 June-14**	**July-12 June-14**
Baseline Emissions	**268.72**	**229.30**	**161.33**	**1,064**	**155.18**	**5,998**	**753.21**	**8.00E-02**	**43.73**	**43.73**	**7.84**	**1,229,299**	**1,222,356**

[(a)] The No. 4 Recovery Furnace did not operate during the lead baseline period.

[(b)] The No. 4 Smelt Dissolving Tank emissions are vented to the No. 4 Recovery Furnace. There are no emissions releases directly to the atmosphere from the No. 4 Smelt Dissolving Tank.

[(c)] NO_X emissions from the Thermal Oxidizer are reported from the emissions units being controlled by the Thermal Oxidizer (i.e., Digesters 1-9, Digester 10, Multiple Effect Evaporator, Turpentine System, and Condensate Stripper).

Table A-2
Summary of Projected Actual Emissions
Packaging Corporation of America - Valdosta Mill

Source	Projected Actual Emissions Rates (tpy)												
	PM filterable	PM_{10}	$PM_{2.5}$	NOx	SO_2	CO	VOC	Pb	TRS	H_2S	H_2SO_4	CO_2e	Total GHG
1005 Riley Combination Boiler	80.88	80.72	54.04	339.11	15.60	2,671	41.45	4.01E-02	--	--	4.68E-02	258,701	255,381
1006 C.E. Combination Boiler	63.06	57.75	36.94	180.47	8.23	1,417	22.00	2.13E-02	--	--	2.00E-02	137,477	135,716
1058 Package Boiler	--	--	--	--	--	--	--	--	--	--	--	--	--
7040 No. 4 Recovery Furnace	37.48	55.10	49.10	534.20	139.36	1,986	101.67	7.91E-03	14.84	14.84	7.65	982,941	981,179
6063 No. 4 Lime Kiln	19.35	21.09	13.23	32.26	0.23	2.53	2.40	9.17E-04	1.07	1.07	9.01E-05	39,655	39,585
7045 No. 4 Smelt Dissolving Tank[(b)]	--	--	--	--	--	--	--	--	--	--	--	--	--
6025 Slaker	1.47	1.33	0.74	--	--	--	--	--	--	--	--	--	--
6076 Thermal Oxidizer	3.29E-02	0.13	0.13	(a)	22.73	4.66	4.08	--	0.17	0.17	1.84	--	--
G016 No. 3A Brown Stock Washer System	--	--	--	--	--	--	--	--	--	--	--	--	--
G039 No. 4 Chemiwasher System	--	--	--	--	--	--	--	--	--	--	--	--	--
8009 Tall Oil Reactor Tank	--	--	--	--	--	--	5.42	--	31.38	31.38	--	--	--
G037 Digesters 1-9 System	--	--	--	17.53	--	--	--	--	--	--	--	--	--
G038 Digester 10 System	--	--	--	2.19	--	--	--	--	--	--	--	--	--
G040 Multiple Effect Evaporator	--	--	--	21.90	--	--	--	--	--	--	--	--	--
G033 Turpentine System	--	--	--	2.19	--	--	--	--	--	--	--	--	--
4336 Condensate Stripper	--	--	--	44.18	--	--	--	--	--	--	--	--	--
G014 Paper Machine System	9.51	15.59	13.31	--	--	--	447.51	--	--	--	--	--	--
GG14 Paper Machine - Wet	--	--	--	--	--	--	71.60	--	--	--	--	--	--
G036 HD Tanks	--	--	--	--	--	--	--	--	--	--	--	--	--
4300 Black Liquor Pond	--	--	--	--	--	--	7.60E-02	--	--	--	--	--	--
G008 Chip Screen	7.17	0.72	--	--	--	--	--	--	--	--	--	--	--
G010 Chip Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
G006 Bark Handling	3.26	1.63	--	--	--	--	--	--	--	--	--	--	--
G011 Bark Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
Roadways	4.58	0.92	0.22	--	--	--	--	--	--	--	--	--	--
Drop Points - Chips	15.85	0.20	3.52E-02	--	--	--	--	--	--	--	--	--	--
Drop Points - Bark	28.41	0.57	0.25	--	--	--	--	--	--	--	--	--	--
G030 Wastewater Treatment Plant	--	--	--	--	--	--	264.87	--	7.00	7.00	--	--	--
HVLC Combustion	--	--	--	--	6.70	--	0.42	--	--	--	--	--	--
Projected Actual Emissions	**271.05**	**235.73**	**168.00**	**1,174**	**192.85**	**6,082**	**961.49**	**7.02E-02**	**54.46**	**54.46**	**9.56**	**1,418,774**	**1,411,860**

[(a)] NO_X emissions from the Thermal Oxidizer are reported from the emissions units being controlled by the Thermal Oxidizer (i.e., Digesters 1-9, Digester 10, Multiple Effect Evaporator, Turpentine System, and Condensate Stripper).

[(b)] The No. 4 Smelt Dissolving Tank emissions are vented to the No. 4 Recovery Furnace. There are no emissions releases directly to the atmosphere from the No. 4 Smelt Dissolving Tank.

Table A-3
Summary of Could Have Accommodated Emissions
Packaging Corporation of America - Valdosta Mill

Source	Could Have Accommodated Emissions Rates (tpy)												
	PM filterable	PM_{10}	$PM_{2.5}$	NOx	SO_2	CO	VOC	Pb	TRS	H_2S	H_2SO_4	CO_2e	Total GHG
1005 Riley Combination Boiler	108.25	103.17	67.46	320.98	22.99	2,976	45.61	6.01E-02	--	--	--	284,434	280,691
1006 C.E. Combination Boiler	60.94	58.06	37.96	169.71	9.16	1,737	24.51	5.71E-02	--	--	--	159,829	157,644
1058 Package Boiler	--	--	--	--	--	--	--	--	--	--	--	--	--
7040 No. 4 Recovery Furnace	31.94	46.95	41.84	441.57	113.84	1,693	89.02	(a)	12.65	12.65	--	66,453	66,335
6063 No. 4 Lime Kiln	19.19	20.91	13.12	17.45	25.90	2.51	2.40	8.13E-04	4.43E-02	4.43E-02	0.29	39,711	39,649
7045 No. 4 Smelt Dissolving Tank[(b)]	--	--	--	--	--	--	--	--	--	--	--	--	--
6025 Slaker	1.42	1.33	0.74	--	--	--	--	--	--	--	--	--	--
6076 Thermal Oxidizer	6.52E-02	0.26	0.26	(c)	--	3.83	--	--	0.14	0.14	1.51	--	--
G016 No. 3A Brown Stock Washer System	--	--	--	--	--	--	--	--	--	--	--	--	--
G039 No. 4 Chemiwasher System	--	--	--	--	--	--	--	--	--	--	--	--	--
8009 Tall Oil Reactor Tank	--	--	--	--	--	--	4.90	--	28.92	28.92	--	--	--
G037 Digesters 1-9 System	--	--	--	14.39	--	--	--	--	--	--	--	--	--
G038 Digester 10 System	--	--	--	1.80	--	--	--	--	--	--	--	--	--
G040 Multiple Effect Evaporator	--	--	--	17.99	--	--	--	--	--	--	--	--	--
G033 Turpentine System	--	--	--	1.80	--	--	--	--	--	--	--	--	--
4336 Condensate Stripper	--	--	--	36.29	--	--	--	--	--	--	--	--	--
G014 Paper Machine System	7.75	12.72	10.86	--	--	--	402.31	--	--	--	--	--	--
GG14 Paper Machine - Wet	--	--	--	--	--	--	62.23	--	--	--	--	--	--
G036 HD Tanks	--	--	--	--	--	--	--	--	--	--	--	--	--
4300 Black Liquor Pond	--	--	--	--	--	--	6.29E-02	--	--	--	--	--	--
G008 Chip Screen	--	--	--	--	--	--	--	--	--	--	--	--	--
G010 Chip Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
G006 Bark Handling	--	--	--	--	--	--	--	--	--	--	--	--	--
G011 Bark Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
Roadways	--	--	--	--	--	--	--	--	--	--	--	--	--
Drop Points - Chips	--	--	--	--	--	--	--	--	--	--	--	--	--
Drop Points - Bark	--	--	--	--	--	--	--	--	--	--	--	--	--
G030 Wastewater Treatment Plant	--	--	--	--	--	--	168.57	--	5.75	5.75	--	--	--
HVLC Combustion	--	--	--	--	--	--	--	--	--	--	--	--	--
Could Have Accomodated Emissions	**229.55**	**243.41**	**172.23**	**1,022**	**171.89**	**6,413**	**799.62**	**0.12**	**47.50**	**47.50**	**1.80**	**550,427**	**544,319**

[(a)] The No. 4 Recovery Furnace did not operate during the lead baseline period.

[(b)] The No. 4 Smelt Dissolving Tank emissions are vented to the No. 4 Recovery Furnace. There are no emissions releases directly to the atmosphere from the No. 4 Smelt Dissolving Tank.

[(c)] NO_X emissions from the Thermal Oxidizer are reported from the emissions units being controlled by the Thermal Oxidizer (i.e., Digesters 1-9, Digester 10, Multiple Effect Evaporator, Turpentine System, and Condensate Stripper).

Table A-4
Summary of Project Related Emissions Increases (tpy)
Packaging Corporation of America - Valdosta Mill

Source	PM filterable	PM_{10}	$PM_{2.5}$	NOx	SO_2	CO	VOC	Pb	TRS	H_2S	H_2SO_4	CO_2e	Total GHG
Project Related Emissions Increases (PAE - BAE)													
1005 Riley Combination Boiler	--	--	--	--	--	--	0.19	--	--	--	--	--	--
1006 C.E. Combination Boiler	6.11	3.55	1.49	--	--	--	--	--	--	--	--	--	--
1058 Package Boiler	--	--	--	--	--	--	--	--	--	--	--	--	--
7040 No. 4 Recovery Furnace	7.12	10.36	9.24	114.03	28.70	384.81	21.91	7.91E-03	2.88	2.88	1.43	206,635	206,238
6063 No. 4 Lime Kiln	6.26	4.46	2.20	3.49	5.70E-02	0.32	0.26	4.77E-04	0.54	0.54	--	3,115	3,100
7045 No. 4 Smelt Dissolving Tank[(b)]	--	--	--	--	--	--	--	--	--	--	--	--	--
6025 Slaker	0.18	0.16	8.67E-02	--	--	--	--	--	--	--	--	--	--
6076 Thermal Oxidizer	4.94E-03	1.72E-02	1.72E-02	(a)	6.28	0.95	3.18	--	3.48E-02	3.48E-02	0.37	--	--
G016 No. 3A Brown Stock Washer System	--	--	--	--	--	--	--	--	--	--	--	--	--
G039 No. 4 Chemiwasher System	--	--	--	--	--	--	--	--	--	--	--	--	--
8009 Tall Oil Reactor Tank	--	--	--	--	--	--	0.93	--	5.85	5.85	--	--	--
G037 Digesters 1-9 System	--	--	--	3.58	--	--	--	--	--	--	--	--	--
G038 Digester 10 System	--	--	--	0.45	--	--	--	--	--	--	--	--	--
G040 Multiple Effect Evaporator	--	--	--	4.46	--	--	--	--	--	--	--	--	--
G033 Turpentine System	--	--	--	0.45	--	--	--	--	--	--	--	--	--
4336 Condensate Stripper	--	--	--	9.00	--	--	--	--	--	--	--	--	--
G014 Paper Machine System	1.94	3.17	2.70	--	--	--	66.22	--	--	--	--	--	--
GG14 Paper Machine - Wet	--	--	--	--	--	--	11.21	--	--	--	--	--	--
G036 HD Tanks	--	--	--	--	--	--	--	--	--	--	--	--	--
4300 Black Liquor Pond	--	--	--	--	--	--	1.75E-02	--	--	--	--	--	--
G008 Chip Screen	1.21	0.12	--	--	--	--	--	--	--	--	--	--	--
G010 Chip Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
G006 Bark Handling	0.46	0.23	--	--	--	--	--	--	--	--	--	--	--
G011 Bark Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
Roadways	0.93	0.18	4.54E-02	--	--	--	--	--	--	--	--	--	--
Drop Points - Chips	2.67	3.33E-02	5.82E-03	--	--	--	--	--	--	--	--	--	--
Drop Points - Bark	--	3.35E-02	1.49E-02	--	--	--	--	--	--	--	--	--	--
G030 Wastewater Treatment Plant	--	--	--	--	--	--	104.76	--	1.43	1.43	--	--	--
HVLC Combustion	--	--	--	--	2.93	--	--	--	--	--	--	--	--
Project Related Emissions Increases (PAE - BAE)	***26.89***	***22.31***	***15.80***	***135.44***	***37.96***	***386.08***	***208.68***	***8.39E-03***	***10.72***	***10.72***	***1.80***	***209,750***	***209,338***

[(a)] NO_X emissions from the Thermal Oxidizer are reported from the emissions units being controlled by the Thermal Oxidizer (i.e., Digesters 1-9, Digester 10, Multiple Effect Evaporator, Turpentine System, and Condensate Stripper).

[(b)] The No. 4 Smelt Dissolving Tank emissions are vented to the No. 4 Recovery Furnace. There are no emissions releases directly to the atmosphere from the No. 4 Smelt Dissolving Tank.

Table A-5
Summary of Excludable Emissions (tpy)
Packaging Corporation of America - Valdosta Mill

Source	PM filterable	PM_{10}	$PM_{2.5}$	NOx	SO_2	CO	VOC	Pb	TRS	H_2S	H_2SO_4	CO_2e	Total GHG
Excludable Emissions (CHA - BAE)													
1005 Riley Combination Boiler	6.59	6.57	4.29	--	7.31	171.87	4.36	8.92E-03	--	--	--	18,048	17,832
1006 C.E. Combination Boiler	3.99	3.86	2.50	--	0.72	150.71	2.11	2.87E-02	--	--	--	9,762	9,572
1058 Package Boiler	--	--	--	--	--	--	--	--	--	--	--	--	--
7040 No. 4 Recovery Furnace	1.58	2.22	1.98	21.39	3.18	91.19	9.26	(a)	0.68	0.68	--	--	--
6063 No. 4 Lime Kiln	6.10	4.28	2.09	--	25.73	0.30	0.26	3.73E-04	--	--	0.25	3,171	3,165
7045 No. 4 Smelt Dissolving Tank[(b)]	--	--	--	--	--	--	--	--	--	--	--	--	--
6025 Slaker	0.13	0.16	9.01E-02	--	--	--	--	--	--	--	--	--	--
6076 Thermal Oxidizer	3.72E-02	0.15	0.15	(c)	--	0.12	--	--	4.29E-03	4.29E-03	3.40E-02	--	--
G016 No. 3A Brown Stock Washer System	--	--	--	--	--	--	--	--	--	--	--	--	--
G039 No. 4 Chemiwasher System	--	--	--	--	--	--	--	--	--	--	--	--	--
8009 Tall Oil Reactor Tank	--	--	--	--	--	--	0.42	--	3.39	3.39	--	--	--
G037 Digesters 1-9 System	--	--	--	0.44	--	--	--	--	--	--	--	--	--
G038 Digester 10 System	--	--	--	5.49E-02	--	--	--	--	--	--	--	--	--
G040 Multiple Effect Evaporator	--	--	--	0.55	--	--	--	--	--	--	--	--	--
G033 Turpentine System	--	--	--	5.49E-02	--	--	--	--	--	--	--	--	--
4336 Condensate Stripper	--	--	--	1.11	--	--	--	--	--	--	--	--	--
G014 Paper Machine System	0.19	0.30	0.25	--	--	--	21.01	--	--	--	--	--	--
GG14 Paper Machine - Wet	--	--	--	--	--	--	1.84	--	--	--	--	--	--
G036 HD Tanks	--	--	--	--	--	--	--	--	--	--	--	--	--
4300 Black Liquor Pond	--	--	--	--	--	--	4.46E-03	--	--	--	--	--	--
G008 Chip Screen	--	--	--	--	--	--	--	--	--	--	--	--	--
G010 Chip Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
G006 Bark Handling	--	--	--	--	--	--	--	--	--	--	--	--	--
G011 Bark Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
Roadways	--	--	--	--	--	--	--	--	--	--	--	--	--
Drop Points - Chips	--	--	--	--	--	--	--	--	--	--	--	--	--
Drop Points - Bark	--	--	--	--	--	--	--	--	--	--	--	--	--
G030 Wastewater Treatment Plant	--	--	--	--	--	--	8.46	--	0.18	0.18	--	--	--
HVLC Combustion	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Excludable Emissions (CHA - BAE)	***18.62***	***17.54***	***11.36***	***23.60***	***36.93***	***414.19***	***47.73***	***3.80E-02***	***4.25***	***4.25***	***0.29***	***30,981***	***30,569***

[(a)] The No. 4 Recovery Furnace did not operate during the lead baseline period.

[(b)] The No. 4 Smelt Dissolving Tank emissions are vented to the No. 4 Recovery Furnace. There are no emissions releases directly to the atmosphere from the No. 4 Smelt Dissolving Tank.

[(c)] NO_X emissions from the Thermal Oxidizer are reported from the emissions units being controlled by the Thermal Oxidizer (i.e., Digesters 1-9, Digester 10, Multiple Effect Evaporator, Turpentine System, and Condensate Stripper).

Table A-6
Summary of PSD Applicability (tpy)
Packaging Corporation of America - Valdosta Mill

Source	PM filterable	PM_{10}	$PM_{2.5}$	NOx	SO_2	CO	VOC	Pb	TRS	H_2S	H_2SO_4	CO_2e	Total GHG
Total Project Related Emissions Increases (PAE - Excludables - BAE)													
1005 Riley Combination Boiler	--	--	--	--	--	--	--	--	--	--	--	--	--
1006 C.E. Combination Boiler	2.12	--	--	--	--	--	--	--	--	--	--	--	--
1058 Package Boiler	--	--	--	--	--	--	--	--	--	--	--	--	--
7040 No. 4 Recovery Furnace	5.54	8.14	7.26	92.63	25.52	293.62	12.65	7.91E-03	2.19	2.19	1.43	206,635	206,238
6063 No. 4 Lime Kiln	0.16	0.18	0.11	3.49	--	2.14E-02	--	1.04E-04	0.54	0.54	--	--	--
7045 No. 4 Smelt Dissolving Tank[(b)]	--	--	--	--	--	--	--	--	--	--	--	--	--
6025 Slaker	5.07E-02	--	--	--	--	--	--	--	--	--	--	--	--
6076 Thermal Oxidizer	--	--	--	(a)	6.28	0.83	3.18	--	3.06E-02	3.06E-02	0.34	--	--
G016 No. 3A Brown Stock Washer System	--	--	--	--	--	--	--	--	--	--	--	--	--
G039 No. 4 Chemiwasher System	--	--	--	--	--	--	--	--	--	--	--	--	--
8009 Tall Oil Reactor Tank	--	--	--	--	--	--	0.51	--	2.46	2.46	--	--	--
G037 Digesters 1-9 System	--	--	--	3.14	--	--	--	--	--	--	--	--	--
G038 Digester 10 System	--	--	--	0.39	--	--	--	--	--	--	--	--	--
G040 Multiple Effect Evaporator	--	--	--	3.91	--	--	--	--	--	--	--	--	--
G033 Turpentine System	--	--	--	0.39	--	--	--	--	--	--	--	--	--
4336 Condensate Stripper	--	--	--	7.89	--	--	--	--	--	--	--	--	--
G014 Paper Machine System	1.75	2.87	2.45	--	--	--	45.20	--	--	--	--	--	--
GG14 Paper Machine - Wet	--	--	--	--	--	--	9.37	--	--	--	--	--	--
G036 HD Tanks	--	--	--	--	--	--	--	--	--	--	--	--	--
4300 Black Liquor Pond	--	--	--	--	--	--	1.31E-02	--	--	--	--	--	--
G008 Chip Screen	1.21	0.12	--	--	--	--	--	--	--	--	--	--	--
G010 Chip Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
G006 Bark Handling	0.46	0.23	--	--	--	--	--	--	--	--	--	--	--
G011 Bark Pile	--	--	--	--	--	--	--	--	--	--	--	--	--
Roadways	0.93	0.18	4.54E-02	--	--	--	--	--	--	--	--	--	--
Drop Points - Chips	2.67	3.33E-02	5.82E-03	--	--	--	--	--	--	--	--	--	--
Drop Points - Bark	--	3.35E-02	1.49E-02	--	--	--	--	--	--	--	--	--	--
G030 Wastewater Treatment Plant	--	--	--	--	--	--	96.30	--	1.25	1.25	--	--	--
HVLC Combustion	--	--	--	--	2.93	--	--	--	--	--	--	--	--
Total Project Related Emissions Increases (PAE - Excludables - BAE)	***14.89***	***11.80***	***9.89***	***111.85***	***34.72***	***294.47***	***167.22***	***8.02E-03***	***6.47***	***6.47***	***1.76***	***206,635***	***206,238***
PSD Significance Levels	***25***	***15***	***10***	***40***	***40***	***100***	***40***	***0.6***	***10***	***10***	***7.0***	***75,000***	**--**
PSD Significant?	**No**	**No**	**No**	**Yes**	**No**	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**Yes**	**--**

[(a)] NO_X emissions from the Thermal Oxidizer are reported from the emissions units being controlled by the Thermal Oxidizer (i.e., Digesters 1-9, Digester 10, Multiple Effect Evaporator, Turpentine System, and Condensate Stripper).

[(b)] The No. 4 Smelt Dissolving Tank emissions are vented to the No. 4 Recovery Furnace. There are no emissions releases directly to the atmosphere from the No. 4 Smelt Dissolving Tank.

Table A-7
Summary of PM Baseline Calculations
Packaging Corporation of America - Valdosta Mill

Source	Fuel or Throughput	Baseline Emissions Factor (2012)	Baseline Emissions Factor (2013)	Baseline Emissions Factor (2014)	Units	Reference	Annual Average Production Rate	Units	Baseline Emissions (tpy)	Baseline Emissions (tpy)
1005 Riley Combination Boiler	Bark	8.00E-02			lb/MMBtu	Site Specific	2,540,322	MMBtu	101.61	101.66
	No. 6 Fuel Oil	0.97			lb/kgal	AP-42[(a)]	94.68	Kgal	4.57E-02	
	Natural Gas	0.19			lb/MMSCF	AP-42 Table 1.4-2[(a)]	7.78	MMSCF	7.39E-04	
1006 C.E. Combination Boiler	Bark	8.00E-02			lb/MMBtu	Site Specific	1,423,127	MMBtu	56.93	56.94
	No. 6 Fuel Oil	0.97			lb/kgal	AP-42[(a)]	37.33	Kgal	1.80E-02	
	Natural Gas	0.19			lb/MMSCF	AP-42 Table 1.4-2[(a)]	17.76	MMSCF	1.69E-03	
1058 Package Boiler[(b)]	Natural Gas	0.19			lb/MMSCF	AP-42 Table 1.4-2	0.00	MMSCF	0.00	0.00
7040 No. 4 Recovery Furnace	Black Liquor Solids	0.10			lb/ton	Site Specific	607,180	ton	30.36	30.36
6063 No. 4 Lime Kiln	No. 6 Fuel Oil	7.06E-02	0.42		lb/ton CaO	Site Specific	2,915	ton	0.61	13.09
	Natural Gas	7.06E-02	0.42		lb/ton CaO	Site Specific	77,419	ton	12.07	
	Tall Oil	7.06E-02	0.42		lb/ton CaO	Site Specific	1,941	ton	0.41	
6025 Slaker	Lime	3.10E-02			lb/ton CaO	NCASI TB 884 Table 4.14	83,501	ton	1.29	1.29
6076 Thermal Oxidizer	Natural Gas	1.90			lb/MMSCF	AP-42, Table 1.4-2.	29.40	MMSCF	2.79E-02	2.79E-02
G014 Paper Machine System	Paper	2.58E-02			lb/ADTFP	NCASI TB 942 Table F3, Source D	585,552	ADTFP	7.56	7.56
G008 Chip Screen	Chips	5.70E-03			lb/ton chips	GAEIS 2011	2,092,848	ton	5.96	5.96
G006 Bark Handling	Bark	2.80			tpy	GAEIS 2011	480,285	ton	2.80	2.80
Roadways	Pulp	1.22E-02			lb/ton	Roadway Calcs tab	599,824	ton	3.65	3.65
Drop Points - Chips	Chips	1.26E-02			lb/ton	NCASI SR 15-01, Table 5.20	2,092,848	ton	13.18	13.18
Drop Points - Bark	Bark	0.13			lb/ton	NCASI SR 15-01, Table 5.20, Fresh Bark	480,285	ton	32.18	32.18

[(a)] The control efficiency for the 1005 Riley Combination Boiler and 1006 C.E. Combination Boiler is 90% when firing No. 6 Fuel Oil or Natural Gas.

[(b)] The 1058 Package Boiler did not operate during the baseline period.

Table A-8
Summary of PM_{10} Baseline Calculations
Packaging Corporation of America - Valdosta Mill

Source	Fuel or Throughput	Baseline Emissions Factor (2012)	Baseline Emissions Factor (2013)	Baseline Emissions Factor (2014)	Units	Reference	Annual Average Production Rate	Units	Baseline Emissions (tpy)	Baseline Emissions (tpy)
1005 Riley Combination Boiler	Bark	7.62E-02			lb/MMBtu	NCASI Pulp and Paper Criteria Pollutants Database (October 2014 version) for Boiler_Wood_ESP, Mean Value	2,532,579	MMBtu	96.49	96.60
	No. 6 Fuel Oil	1.89			lb/kgal	AP-42[(a)]	94.18	Kgal	8.89E-02	
	Natural Gas	6.18			lb/MMSCF	AP-42 Table 1.4-2[(a)]	6.85	MMSCF	2.12E-02	
1006 C.E. Combination Boiler	Bark	7.62E-02			lb/MMBtu	NCASI Pulp and Paper Criteria Pollutants Database (October 2014 version) for Boiler_Wood_ESP, Mean Value	1,420,211	MMBtu	54.11	54.20
	No. 6 Fuel Oil	1.85			lb/kgal	AP-42[(a)]	39.24	Kgal	3.64E-02	
	Natural Gas	6.18			lb/MMSCF	AP-42 Table 1.4-2[(a)]	17.79	MMSCF	5.49E-02	
1058 Package Boiler[(b)]	Natural Gas	5.89			lb/MMSCF	AP-42 Table 1.4-2	0.00	MMSCF	0.00	0.00
7040 No. 4 Recovery Furnace	Black Liquor Solids	0.15			lb/ton	Applied percentage of PM filterable from NCASI Criteria Pollutants Database to Site Specific PM filterable data	608,590	ton	44.73	44.73
6063 No. 4 Lime Kiln	No. 6 Fuel Oil	0.23	0.46		lb/ton CaO	Site Specific	2,915	ton	0.67	16.63
	Natural Gas	0.23	0.46		lb/ton CaO	Site Specific	77,849	ton	15.51	
	Tall Oil	0.23	0.46		lb/ton CaO	Site Specific	1,941	ton	0.44	
6025 Slaker	Lime	2.79E-02			lb/ton CaO	NCASI TB 1020, Section 4.14.1	83,935	ton	1.17	1.17
6076 Thermal Oxidizer	Natural Gas	7.60			lb/MMSCF	AP-42, Table 1.4-2.	30.06	MMSCF	0.11	0.11
G014 Paper Machine System	Paper	4.24E-02			lb/ADTFP	NCASI TB 942 Table F3, Source D	586,320	ton	12.42	12.42
G008 Chip Screen	Chips	5.70E-04			lb/ton chips	GAEIS 2011	2,100,432	ton	0.60	0.60
G006 Bark Handling	Bark	1.40			tpy	GAEIS 2011	399,257	ton	1.40	1.40
Roadways	Pulp	2.43E-03			lb/ton	Roadway Calcs tab	600,205	ton	0.73	0.73
Drop Points - Chips	Chips	1.60E-04			lb/ton	NCASI SR 15-01, Table 6.1	2,100,432	ton	0.17	0.17
Drop Points - Bark	Bark	2.70E-03			lb/ton	NCASI SR 15-01, Table 6.1, Fresh Bark	399,257	ton	0.54	0.54

[(a)] The control efficiency for the 1005 Riley Combination Boiler and 1006 C.E. Combination Boiler when firing No. 6 Fuel Oil or Natural Gas are as follows:

Emissions Unit	No. 6 Fuel Oil	Natural Gas
1005 Riley Combination Boiler	89%	75%
1006 C.E. Combination Boiler	90%	75%

[(b)] The 1058 Package Boiler did not operate during the baseline period.

Table A-9
Summary of $PM_{2.5}$ Baseline Calculations
Packaging Corporation of America - Valdosta Mill

Source	Fuel or Throughput	Baseline Emissions Factor (2012)	Baseline Emissions Factor (2013)	Baseline Emissions Factor (2014)	Units	Reference	Annual Average Production Rate	Units	Baseline Emissions (tpy)	Baseline Emissions (tpy)
1005 Riley Combination Boiler	Bark	4.98E-02			lb/MMBtu	NCASI Pulp and Paper Criteria Pollutants Database (October 2014 version) for Boiler_Wood_ESP, Mean Value	2,532,579	MMBtu	63.06	63.17
	No. 6 Fuel Oil	1.81			lb/kgal	AP-42[(a)]	94.18	Kgal	8.53E-02	
	Natural Gas	6.18			lb/MMSCF	AP-42 Table 1.4-2[(a)]	6.85	MMSCF	2.12E-02	
1006 C.E. Combination Boiler	Bark	4.98E-02			lb/MMBtu	NCASI Pulp and Paper Criteria Pollutants Database (October 2014 version) for Boiler_Wood_ESP, Mean Value	1,420,211	MMBtu	35.36	35.45
	No. 6 Fuel Oil	1.74			lb/kgal	AP-42[(a)]	39.24	Kgal	3.41E-02	
	Natural Gas	6.18			lb/MMSCF	AP-42 Table 1.4-2[(a)]	17.79	MMSCF	5.49E-02	
1058 Package Boiler[(b)]	Natural Gas	5.89			lb/MMSCF	AP-42 Table 1.4-2	0.00	MMSCF	0.00	0.00
7040 No. 4 Recovery Furnace	Black Liquor Solids	0.13			lb/ton	Applied percentage of PM filterable from NCASI Criteria Pollutants Database to Site Specific PM filterable data	608,590	ton	39.86	39.86
6063 No. 4 Lime Kiln	No. 6 Fuel Oil	0.20	0.29		lb/ton CaO	Site Specific	2,915	ton	0.42	11.03
	Natural Gas	0.20	0.29		lb/ton CaO	Site Specific	77,849	ton	10.33	
	Tall Oil	0.20	0.29		lb/ton CaO	Site Specific	1,941	ton	0.28	
6025 Slaker	Lime	1.55E-02			lb/ton CaO	NCASI TB 1020, Section 4.14.1	83,935	ton	0.65	0.65
6076 Thermal Oxidizer	Natural Gas	7.60			lb/MMSCF	AP-42, Table 1.4-2.	30.06	MMSCF	0.11	0.11
G014 Paper Machine System	Paper	3.62E-02			lb/ADTFP	NCASI TB 942 Table F3, Source D	586,320	ton	10.60	10.60
Roadways	Pulp	5.98E-04			lb/ton	Roadway Calcs tab	600,205	ton	0.18	0.18
Drop Points - Chips	Chips	2.80E-05			lb/ton	NCASI SR 15-01, Table 6.1	2,100,432	ton	2.94E-02	2.94E-02
Drop Points - Bark	Bark	1.20E-03			lb/ton	NCASI SR 15-01, Table 6.1, Fresh Bark	399,257	ton	0.24	0.24

[(a)] The control efficiency for the 1005 Riley Combination Boiler and 1006 C.E. Combination Boiler when firing No. 6 Fuel Oil or Natural Gas are as follows:

Emissions Unit	No. 6 Fuel Oil	Natural Gas
1005 Riley Combination Boiler	87%	75%
1006 C.E. Combination Boiler	90%	75%

[(b)] The 1058 Package Boiler did not operate during the baseline period.

Table A-10
Summary of NO_X Baseline Calculations
Packaging Corporation of America - Valdosta Mill

Source	Fuel or Throughput	Baseline Emissions Factor (2012)	Baseline Emissions Factor (2013)	Baseline Emissions Factor (2014)	Units	Reference	Annual Average Production Rate	Units	Baseline Emissions (tpy)	Baseline Emissions (tpy)
1005 Riley Combination Boiler	Bark	0.27			lb/MMBtu	Site Specific	2,548,660	MMBtu	344.07	347.69
	No. 6 Fuel Oil	47.00			lb/kgal	AP-42 Table 1.3-1	93.42	Kgal	2.20	
	Natural Gas	280.00			lb/MMSCF	AP-42 Table 1.4-1	10.22	MMSCF	1.43	
1006 C.E. Combination Boiler	Bark	0.27			lb/MMBtu	Site Specific	1,441,714	MMBtu	194.63	197.62
	No. 6 Fuel Oil	47.00			lb/kgal	AP-42 Table 1.3-1	34.00	Kgal	0.80	
	Natural Gas	280.00			lb/MMSCF	AP-42 Table 1.4-1	15.64	MMSCF	2.19	
1058 Package Boiler[(a)]	Natural Gas	280.00			lb/MMSCF	AP-42 Table 1.4-1	0.00	MMSCF	0.00	0.00
7040 No. 4 Recovery Furnace	Black Liquor Solids	1.38			lb/ton	2011 Test	604,390	ton	417.03	420.18
	Natural Gas	192.23	192.84	194.07	lb/MMSCF	Engineering Judgment	32.67	MMSCF	3.15	
6063 No. 4 Lime Kiln	No. 6 Fuel Oil	1.15			lb/T CaO (Oil-In)	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP&/orWetScrub; Median Value Firing Oil	2,901	ton	1.67	28.77
	Natural Gas	0.70			lb/T CaO (Gas-In)	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP&/orWetScrub; Median Value Firing Gas	76,531	ton	26.79	
	Tall Oil	0.70			lb/T CaO (Gas-In)	NCASI Database Caustic_Lime_Kiln_ESP&/orWetScrub; October 2014 version, Median Value Firing Oil	902.44	ton	0.32	
G037 Digesters 1-9 System	Pulp	5.18E-02			lb/ton	Historical Mill Factor	598,817	ton	13.95	13.95
G038 Digester 10 System	Pulp	5.83E-02			lb/ton	Historical Mill Factor	598,817	ton	1.74	1.74
G040 Multiple Effect Evaporator	Pulp	5.83E-02			lb/ton	Historical Mill Factor	598,817	ton	17.44	17.44
G033 Turpentine System	Pulp	5.83E-03			lb/ton	Historical Mill Factor	598,817	ton	1.74	1.74
4336 Condensate Stripper	Pulp	0.12			lb/ton	Historical Mill Factor	598,817	ton	35.18	35.18

[(a)] The 1058 Package Boiler did not operate during the baseline period.

Table A-11
Summary of SO_2 Baseline Calculations
Packaging Corporation of America - Valdosta Mill

Source	Fuel or Throughput	Baseline Emissions Factor (2015)	Baseline Emissions Factor (2016)	Units	Reference	Annual Average Production Rate	Units	Baseline Emissions (tpy)	Baseline Emissions (tpy)
1005 Riley Combination Boiler	Bark	1.25E-02		lb/MMBtu	AP-42 Table 1.6-2[(a)]	2,397,716	MMBtu	14.99	15.68
	No. 6 Fuel Oil	21.98		lb/kgal	AP-42 Table 1.3-1[(a)]	62.54	Kgal	0.69	
	Natural Gas	0.60		lb/MMSCF	AP-42 Table 1.4-2	19.04	MMSCF	5.71E-03	
1006 C.E. Combination Boiler	Bark	1.25E-02		lb/MMBtu	AP-42 Table 1.6-2[(a)]	1,318,343	MMBtu	8.24	8.44
	No. 6 Fuel Oil	21.98		lb/kgal	AP-42 Table 1.3-1[(a)]	17.43	Kgal	0.19	
	Natural Gas	0.60		lb/MMSCF	AP-42 Table 1.4-2	27.93	MMSCF	8.38E-03	
1058 Package Boiler[(b)]	Natural Gas	0.60		lb/MMSCF	AP-42 Table 1.4-2	0.00	MMSCF	0.00	0.00
7040 No. 4 Recovery Furnace	Black Liquor Solids	0.37		lb/ton	NCASI Criteria Air Pollutants Database (2015 Version) for Recovery_Furnace_NDCE, Mean Value	595,247	ton	110.63	110.66
	Natural Gas	0.60		lb/MMSCF	AP-42 Table 1.4-2	129.01	MMSCF	3.87E-02	
6063 No. 4 Lime Kiln[(c)]	No. 6 Fuel Oil	10.99		lb/kgal	AP-42 Table 1.3-1[(c)]	0.00	ton	0.00	0.17
	Natural Gas	0.60		lb/MMSCF	AP-42 Table 1.4-2	569.60	MMSCF	0.17	
	Tall Oil	7.40E-02		lb/lb	Site Specific - GAEIS 2015[(c)]	0.00	ton	0.00	
6076 Thermal Oxidizer	Pulp	19.50	13.40	tpy	Site specific - Stack Test Data	631,611	ton	16.45	16.45
HVLC Combustion	Pulp	5.75	1.80	tpy	Site specific - Stack Test Data	631,611	ton	3.78	3.78

[(a)] The control efficiency for the 1005 Riley Combination Boiler and 1006 C.E. Combination Boiler is 50% when firing Bark and 80% when firing No. 6 Fuel Oil.

[(b)] The 1058 Package Boiler did not operate during the baseline period.

[(c)] The 6063 No. 4 Lime Kiln did not fire No. 6 Fuel Oil or Tall Oil during the baseline period.

Table A-12
Summary of CO Baseline Calculations
Packaging Corporation of America - Valdosta Mill

Source	Fuel or Throughput	Baseline Emissions Factor (2012)	Baseline Emissions Factor (2013)	Baseline Emissions Factor (2014)	Units	Reference	Annual Average Production Rate	Units	Baseline Emissions (tpy)	Baseline Emissions (tpy)
1005 Riley Combination Boiler	Bark	2.20			lb/MMBtu	Site Specific	2,548,660	MMBtu	2,804	2,804
	No. 6 Fuel Oil	5.00			lb/kgal	AP-42 Table 1.3-1	93.42	Kgal	0.23	
	Natural Gas	84.00			lb/MMSCF	AP-42 Table 1.4-1	10.22	MMSCF	0.43	
1006 C.E. Combination Boiler	Bark	2.20			lb/MMBtu	Site Specific	1,441,714	MMBtu	1,586	1,587
	No. 6 Fuel Oil	5.00			lb/kgal	AP-42 Table 1.3-1	34.00	Kgal	8.50E-02	
	Natural Gas	84.00			lb/MMSCF	AP-42 Table 1.4-1	15.64	MMSCF	0.66	
1058 Package Boiler[(a)]	Natural Gas	84.00			lb/MMSCF	AP-42 Table 1.4-1	0.00	MMSCF	0.00	0.00
7040 No. 4 Recovery Furnace	Black Liquor Solids	5.30			lb/ton	Site Specific Data based on 2012 - 2015 average	604,390	ton	1,602	1,602
6063 No. 4 Lime Kiln	No. 6 Fuel Oil	5.50E-02			lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Median value	2,901	ton	7.98E-02	2.21
	Natural Gas	5.50E-02			lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	76,531	ton	2.10	
	Tall Oil	5.50E-02			lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Median value	902.44	ton	2.48E-02	
6076 Thermal Oxidizer	Pulp	1.24E-02			lb/ADTUBP	NCASI TB 1020, Table 4.4. Median value.	598,817	ton	3.71	3.71

[(a)] The 1058 Package Boiler did not operate during the baseline period.

Table A-13
Summary of VOC Baseline Calculations
Packaging Corporation of America - Valdosta Mill

Source	Fuel or Throughput	Baseline Emissions Factor (2016)	Baseline Emissions Factor (2017)	Units	Reference	Annual Average Production Rate	Units	Baseline Emissions (tpy)	Baseline Emissions (tpy)
1005 Riley Combination Boiler	Bark	3.40E-02		lb/MMBtu	NCASI TB 884 Table 9.6 a	2,417,608	MMBtu	41.10	41.26
	No. 6 Fuel Oil	0.28		lb/kgal	AP-42 Table 1.3-3	63.99	Kgal	8.96E-03	
	Natural Gas	5.50		lb/MMSCF	AP-42 Table 1.4-2	54.25	MMSCF	0.15	
1006 C.E. Combination Boiler	Bark	3.40E-02		lb/MMBtu	NCASI TB 884 Table 9.6a	1,310,447	MMBtu	22.28	22.40
	No. 6 Fuel Oil	0.28		lb/kgal	AP-42 Table 1.3-3	12.75	Kgal	1.78E-03	
	Natural Gas	5.51		lb/MMSCF	NCASI	42.68	MMSCF	0.12	
1058 Package Boiler[(a)]	Natural Gas	5.50		lb/MMSCF	AP-42 Table 1.4-2	0.00	MMSCF	0.00	0.00
7040 No. 4 Recovery Furnace	Black Liquor Solids	0.27		lb/ton	Engineering Judgement	587,232	ton	79.28	79.76
	Natural Gas	5.50		lb/MMSCF	NCASI Criteria Pollutants Database (2015 Version) for Boiler_NatGas_All Sizes_All Configurations, Mean Value	175.65	MMSCF	0.48	
6063 No. 4 Lime Kiln[(b)]	No. 6 Fuel Oil	5.20E-02		lb/ton CaO	GEPD Fee Manual, which references NCASI TB No. 858	2.60	ton	6.75E-05	2.14
	Natural Gas	5.20E-02		lb/ton CaO	GEPD Fee Manual, which references NCASI TB No. 858	82,287	ton	2.14	
	Tall Oil	5.20E-02		lb/ton CaO	GEPD Fee Manual, which references NCASI TB No. 858	0.00	ton	0.00	
6076 Thermal Oxidizer	Pulp	0.90		tpy	Stack Test Data	636,628	ton	0.45	0.45
8009 Tall Oil Reactor Tank	Tall Oil	0.33		lb/ton TO	Average of October 29, 2013 testing and April 1, 2014 testing	27,005	ton	4.49	4.49
G014 Paper Machine System	Paper	1.22		lb/ADTFP	NCASI TB 681 (see PM VOC EF tab)	627,000	ton	381.29	381.29
GG14 Paper Machine - Wet	Paper	0.20		lb/MDT	Historical Mill Factor	603,896	ton	60.39	60.39
4300 Black Liquor Pond	Black Liquor Solids	1.37E-02		lb/ton	Engineering judgement.	8,538	Ton	5.85E-02	5.85E-02
G030 Wastewater Treatment Plant	Pulp	0.50		lb/ADTUBP	Updated data based on Pond out of service, NCASI May 2015 Memo	636,628	ton	160.11	160.11
HVLC Combustion	Pulp	0.42		tpy	Stack Test Data	636,628	ton	0.21	0.21

[(a)] The 1058 Package Boiler did not operate during the baseline period.

[(b)] The 6063 No. 4 Lime Kiln did not fire Tall Oil during the baseline period.

Table A-14
Summary of Pb Baseline Calculations
Packaging Corporation of America - Valdosta Mill

Source	Fuel or Throughput	Baseline Emissions Factor (2009)	Baseline Emissions Factor (2010)	Units	Reference	Annual Average Production Rate	Units	Baseline Emissions (tpy)	Baseline Emissions (tpy)
1005 Riley Combination Boiler	Bark	3.30E-05		lb/MMBtu	Maximum Stack Test Emission Factor	3,097,621	MMBtu	5.11E-02	5.11E-02
	No. 6 Fuel Oil	1.51E-03		lb/kgal	AP-42 Table 1.3-11	39.77	Kgal	3.00E-05	
	Natural Gas	5.00E-04		lb/MMSCF	AP-42 Table 1.4-2	3.28	MMSCF	8.19E-07	
1006 C.E. Combination Boiler	Bark	3.30E-05		lb/MMBtu	Maximum Stack Test Emission Factor	1,721,838	MMBtu	2.84E-02	2.84E-02
	No. 6 Fuel Oil	1.51E-03		lb/kgal	AP-42 Table 1.3-11	18.77	Kgal	1.42E-05	
	Natural Gas	5.00E-04		lb/MMSCF	AP-42 Table 1.4-2	3.74	MMSCF	9.34E-07	
1058 Package Boiler[(a)]	Natural Gas	5.00E-04		lb/MMSCF	AP-42 Table 1.4-2	0.00	MMSCF	0.00	0.00
6063 No. 4 Lime Kiln	No. 6 Fuel Oil	1.99E-05		lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	177.24	ton	1.76E-06	4.40E-04
	Natural Gas	1.99E-05		lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	38,406	ton	3.82E-04	
	Tall Oil	1.99E-05		lb/ton CaO	NCASI Air Toxics Database Caustic_Lime_Kiln_ESP; October 2014 version, Median Value Firing Oil	5,589	ton	5.56E-05	

[(a)] The 1058 Package Boiler did not operate during the baseline period.

Table A-15
Summary of TRS and H_2S Baseline Calculations
Packaging Corporation of America - Valdosta Mill

Source	Fuel or Throughput	Baseline Emissions Factor (2012)	Baseline Emissions Factor (2013)	Baseline Emissions Factor (2014)	Units	Reference	Annual Average Production Rate	Units	Baseline Emissions (tpy)
7040 No. 4 Recovery Furnace	Black Liquor Solids	3.96E-02			lb/ton	NCASI Air Toxics Database (2014 Version) for Recovery_Furnace_NDCE, Mean Value	604,390	ton	11.97
6063 No. 4 Lime Kiln	All fuels	0.53			tpy	Mill Data	81,372	ton	0.53
6025 Slaker	Lime	0.00			lb/ton CaO	Mill uses all fresh water in the causticizing system; negligible emissions from slaker.	82,634	ton	0.00
6076 Thermal Oxidizer	Pulp	4.55E-04			lb/ADTUBP	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for NCG_Thermal_Oxidizer_Outlet, Median value	598,817	ton	0.14
G016 No. 3A Brown Stock Washer System	Pulp	0.00			lb/ADTUBP	Washer exhaust is collected and sent to Thermal Oxidizer where 100% destruction is assumed.	97,768	ton	0.00
G039 No. 4 Chemiwasher System	Pulp	0.00			lb/ADTUBP	Washer exhaust is collected and sent to Thermal Oxidizer where 100% destruction is assumed.	501,049	ton	0.00
8009 Tall Oil Reactor Tank	Tall Oil	1.93			lb/ton TO	Average of October 29, 2013 testing and April 1, 2014 testing	26,523	ton	25.53
G030 Wastewater Treatment Plant	Pulp	1.86E-02			lb/ADTUBP	Site specific Sampling	598,817	ton	5.57

Table A-16
Summary of H_2SO_4 Baseline Calculations
Packaging Corporation of America - Valdosta Mill

Source	Fuel or Throughput	Baseline Emissions Factor (2012)	Baseline Emissions Factor (2013)	Baseline Emissions Factor (2014)	Units	Reference	Annual Average Production Rate	Units	Baseline Emissions (tpy)	Baseline Emissions (tpy)
1005 Riley Combination Boiler	No. 6 Fuel Oil	1.72			lb/kgal	NCASI Air Toxics Database (2014 Version) for Boiler_FuelOil6, Mean Value	82.77	Kgal	7.10E-02	7.10E-02
1006 C.E. Combination Boiler	No. 6 Fuel Oil	1.72			lb/kgal	NCASI Air Toxics Database (2014 Version) for Boiler_FuelOil6, Mean Value	39.60	Kgal	3.40E-02	3.40E-02
7040 No. 4 Recovery Furnace	Black Liquor Solids	2.04E-02			lb/ton	NCASI Air Toxics Database (2014 Version) for Recovery_Furnace_NDCE, Mean Value	609,750	ton	6.22	6.22
6063 No. 4 Lime Kiln	No. 6 Fuel Oil	2.10E-02			lb/ton CaO (Oil-in)	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	2,915	ton	3.06E-02	4.01E-02
	Natural Gas	6.80E-07			lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	78,274	ton	2.66E-05	
	Tall Oil	2.10E-02			lb/ton CaO (Oil-in)	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	902.44	ton	9.48E-03	
6076 Thermal Oxidizer	Pulp	4.90E-03			lb/ADTUBP	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for NCG_Thermal_Oxidizer_Outlet, Median value	600,565	ton	1.47	1.47

Table A-17
Summary of Riley Combination Boiler Projected Actual Emissions
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[a]	Units	Emissions (tpy)
1005 Riley Combination Boiler	Bark	PM filterable	6.67E-02	lb/MMBtu	Average of site-specific data for 2015-2017.	2,425,511	MMBtu	80.85
		PM_{10}	6.63E-02	lb/MMBtu	Emissions factors for filterable portion of PM_{10} assumed to equal 74% of total PM filterable based on NCASI Pulp and Paper Criteria Pollutants Database (October 2015) for Boiler_Wood_ESP. Emissions factor for condensable portion from AP-42 Table 1.6-1.	2,425,511	MMBtu	80.45
		$PM_{2.5}$	4.43E-02	lb/MMBtu	Emissions factors for filterable portion of $PM_{2.5}$ assumed to equal 41% of total PM filterable based on NCASI Pulp and Paper Criteria Pollutants Database (October 2015) for Boiler_Wood_ESP. Emissions factor for condensable portion from AP-42 Table 1.6-1.	2,425,511	MMBtu	53.77
		NO_X	0.27	lb/MMBtu	Site Specific	2,425,511	MMBtu	327.44
		SO_2	1.25E-02	lb/MMBtu	AP-42 Table 1.6-2[b]	2,425,511	MMBtu	15.16
		CO	2.20	lb/MMBtu	Site Specific	2,425,511	MMBtu	2,668
		VOC	3.40E-02	lb/MMBtu	NCASI TB 884 Table 9.6 a	2,425,511	MMBtu	41.23
		Pb	3.30E-05	lb/MMBtu	Maximum Stack Test Emission Factor	2,425,511	MMBtu	4.00E-02
		CO_2	93.80	kg CO_2/MMBtu	40 CFR Part 98, Subpart C, Table C-1	2,425,511	MMBtu	250,264
		CH_4	7.20E-03	kg CH_4/MMBtu	40 CFR Part 98, Subpart C, Table C-2	2,425,511	MMBtu	19.21
		N_2O	3.60E-03	kg N_2O/MMBtu	40 CFR Part 98, Subpart C, Table C-2	2,425,511	MMBtu	9.61
		CO_2e[c]						253,607
	No. 6 Fuel Oil	PM filterable	0.97	lb/kgal	AP-42[b]	38.22	Kgal	1.84E-02
		PM_{10}	1.89	lb/kgal	AP-42[b]	38.22	Kgal	3.61E-02
		$PM_{2.5}$	1.81	lb/kgal	AP-42[b]	38.22	Kgal	3.46E-02
		NO_X	47.00	lb/kgal	AP-42 Table 1.3-1	38.22	Kgal	0.90
		SO_2	21.98	lb/kgal	AP-42 Table 1.3-1[b]	38.22	Kgal	0.42
		CO	5.00	lb/kgal	AP-42 Table 1.3-1	38.22	Kgal	9.55E-02
		VOC	0.28	lb/kgal	AP-42 Table 1.3-3	38.22	Kgal	5.35E-03
		Pb	1.51E-03	lb/kgal	AP-42 Table 1.3-11	38.22	Kgal	2.89E-05
		H_2SO_4	2.45	lb/kgal	NCASI Air Toxics Database (2015 Version) for Boiler_FuelOil6, Mean Value	38.22	Kgal	4.68E-02
		CO_2	75.10	kg CO_2/MMBtu	40 CFR Part 98, Subpart C, Table C-1	5,501	MMBtu	454.44
		CH_4	3.00E-03	kg CH_4/MMBtu	40 CFR Part 98, Subpart C, Table C-2	5,501	MMBtu	1.82E-02
		N_2O	6.00E-04	kg N_2O/MMBtu	40 CFR Part 98, Subpart C, Table C-2	5,501	MMBtu	3.63E-03
		CO_2e[c]						455.97

Table A-17 (Continued)
Summary of Riley Combination Boiler Projected Actual Emissions
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[a]	Units	Emissions (tpy)
1005 Riley Combination Boiler	Natural Gas	PM filterable	0.19	lb/MMSCF	AP-42 Table 1.4-2[b]	76.93	MMSCF	7.31E-03
		PM_{10}	6.18	lb/MMSCF	AP-42 Table 1.4-2[b]	76.93	MMSCF	0.24
		$PM_{2.5}$	6.18	lb/MMSCF	AP-42 Table 1.4-2[b]	76.93	MMSCF	0.24
		NO_X	280.00	lb/MMSCF	AP-42 Table 1.4-1	76.93	MMSCF	10.77
		SO_2	0.60	lb/MMSCF	AP-42 Table 1.4-2	76.93	MMSCF	2.31E-02
		CO	84.00	lb/MMSCF	AP-42 Table 1.4-1	76.93	MMSCF	3.23
		VOC	5.50	lb/MMSCF	AP-42 Table 1.4-2	76.93	MMSCF	0.21
		Pb	5.00E-04	lb/MMSCF	AP-42 Table 1.4-2	76.93	MMSCF	1.92E-05
		CO_2	53.06	kg CO_2/MMBtu	40 CFR Part 98, Subpart C, Table C-1	79,388	MMBtu	4,634
		CH_4	1.00E-03	kg CH_4/MMBtu	40 CFR Part 98, Subpart C, Table C-2	79,388	MMBtu	8.73E-02
		N_2O	1.00E-04	kg N_2O/MMBtu	40 CFR Part 98, Subpart C, Table C-2	79,388	MMBtu	8.73E-03
		CO_2e[c]						4,638
Total Projected Actual Emissions		PM filterable						80.88
		PM_{10}						80.72
		$PM_{2.5}$						54.04
		NO_X						339.11
		SO_2						15.60
		CO						2,671
		VOC						41.45
		Pb						4.01E-02
		H_2SO_4						4.68E-02
		CO_2						255,352
		CH_4						19.32
		N_2O						9.62
		Total GHG						255,381
		CO_2e						258,701

[a] Projected throughputs were developed by the Mill's engineers' estimates for the proposed project.

[b] The Mill has applied the following control efficiencies to the Mill emissions factors based on historic data and control devices:

Pollutant	Bark	No. 6 Fuel Oil	Natural Gas
PM filterable	--	90%	90%
PM_{10}	--	89%	75%
$PM_{2.5}$	--	87%	75%
SO_2	50%	80%	--

[c] Carbon dioxide equivalent (CO_2e) was calculated using the methodologies outlined in 40 CFR Part 98 and the following global warming potentials (GWP):

CO_2: 1
CH_4: 25
N_2O: 298

Table A-18
Summary of C.E. Combination Boiler Projected Actual Emissions
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[a]	Units	Emissions (tpy)
1006 C.E. Combination Boiler	Bark	PM filterable	9.80E-02	lb/MMBtu	Site Specific	1,286,651	MMBtu	63.05
		PM_{10}	8.95E-02	lb/MMBtu	NCASI Pulp and Paper Criteria Pollutants Database (October 2014 version) for Boiler_Wood_ESP, Mean Value	1,286,651	MMBtu	57.59
		$PM_{2.5}$	5.72E-02	lb/MMBtu	NCASI Pulp and Paper Criteria Pollutants Database (October 2014 version) for Boiler_Wood_ESP, Mean Value	1,286,651	MMBtu	36.79
		NO_X	0.27	lb/MMBtu	Site Specific	1,286,651	MMBtu	173.70
		SO_2	1.25E-02	lb/MMBtu	AP-42 Table 1.6-2[b]	1,286,651	MMBtu	8.04
		CO	2.20	lb/MMBtu	Site Specific	1,286,651	MMBtu	1,415
		VOC	3.40E-02	lb/MMBtu	NCASI TB 884 Table 9.6 a	1,286,651	MMBtu	21.87
		Pb	3.30E-05	lb/MMBtu	Maximum Stack Test Emission Factor	1,286,651	MMBtu	2.12E-02
		CO_2	93.80	kg CO_2/MMBtu	40 CFR Part 98, Subpart C, Table C-1	1,286,651	MMBtu	132,757
		CH_4	7.20E-03	kg CH_4/MMBtu	40 CFR Part 98, Subpart C, Table C-2	1,286,651	MMBtu	10.19
		N_2O	3.60E-03	kg N_2O/MMBtu	40 CFR Part 98, Subpart C, Table C-2	1,286,651	MMBtu	5.10
		CO_2e[c]						134,530
	No. 6 Fuel Oil	PM filterable	0.97	lb/kgal	AP-42[b]	16.32	Kgal	7.88E-03
		PM_{10}	1.85	lb/kgal	AP-42[b]	16.32	Kgal	1.51E-02
		$PM_{2.5}$	1.74	lb/kgal	AP-42[b]	16.32	Kgal	1.42E-02
		NO_X	47.00	lb/kgal	AP-42 Table 1.3-1	16.32	Kgal	0.38
		SO_2	21.98	lb/kgal	AP-42 Table 1.3-1[b]	16.32	Kgal	0.18
		CO	5.00	lb/kgal	AP-42 Table 1.3-1	16.32	Kgal	4.08E-02
		VOC	0.28	lb/kgal	AP-42 Table 1.4-2	16.32	Kgal	2.29E-03
		Pb	1.51E-03	lb/kgal	AP-42 Table 1.3-11	16.32	Kgal	1.23E-05
		H_2SO_4	2.45	lb/kgal	NCASI Air Toxics Database (2015 Version) for Boiler_FuelOil6, Mean Value	16.32	Kgal	2.00E-02
		CO_2	75.10	kg CO_2/MMBtu	40 CFR Part 98, Subpart C, Table C-1	2,350	MMBtu	194.10
		CH_4	3.00E-03	kg CH_4/MMBtu	40 CFR Part 98, Subpart C, Table C-2	2,350	MMBtu	7.75E-03
		N_2O	6.00E-04	kg N_2O/MMBtu	40 CFR Part 98, Subpart C, Table C-2	2,350	MMBtu	1.55E-03
		CO_2e[c]						194.75
	Natural Gas	PM filterable	0.19	lb/MMSCF	AP-42 Table 1.4-2[b]	45.65	MMSCF	4.34E-03
		PM_{10}	6.18	lb/MMSCF	AP-42 Table 1.4-2[b]	45.65	MMSCF	0.14
		$PM_{2.5}$	6.18	lb/MMSCF	AP-42 Table 1.4-2[b]	45.65	MMSCF	0.14
		NO_X	280.00	lb/MMSCF	AP-42 Table 1.4-2	45.65	MMSCF	6.39
		SO_2	0.60	lb/MMSCF	AP-42 Table 1.4-2	45.65	MMSCF	1.37E-02
		CO	84.00	lb/MMSCF	AP-42 Table 1.4-2	45.65	MMSCF	1.92
		VOC	5.51	lb/MMSCF	NCASI Pulp and Paper Criteria Pollutants Database (October 2014 version) for Boiler_NatGas_All_Sizes_All_Configurations, Mean Value	45.65	MMSCF	0.13
		Pb	5.00E-04	lb/MMSCF	AP-42 Table 1.4-2	45.65	MMSCF	1.14E-05
		CO_2	53.06	kg CO_2/MMBtu	40 CFR Part 98, Subpart C, Table C-1	47,109	MMBtu	2,750
		CH_4	1.00E-03	kg CH_4/MMBtu	40 CFR Part 98, Subpart C, Table C-2	47,109	MMBtu	5.18E-02
		N_2O	1.00E-04	kg N_2O/MMBtu	40 CFR Part 98, Subpart C, Table C-2	47,109	MMBtu	5.18E-03
		CO_2e[c]						2,752

Table A-18 (Continued)
Summary of C.E. Combination Boiler Projected Actual Emissions
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[a]	Units	Emissions (tpy)
Total Projected Actual Emissions		PM filterable						63.06
		PM_{10}						57.75
		$PM_{2.5}$						36.94
		NO_X						180.47
		SO_2						8.23
		CO						1,417
		VOC						22.00
		Pb						2.13E-02
		TRS						0
		H_2S						0
		H_2SO_4						2.00E-02
		CO_2						135,700
		CH_4						10.25
		N_2O						5.10
		Total GHG						135,716
		CO_2e						137,477

[a] Projected throughputs were developed by the Mill's engineers' estimates for the proposed project.

[b] The Mill has applied the following control efficiencies to the Mill emissions factors based on historic data and control devices:

Pollutant	Bark	No. 6 Fuel Oil	Natural Gas
PM filterable	--	90%	90%
PM_{10}	--	90%	75%
$PM_{2.5}$	--	90%	75%
SO_2	50%	80%	--

[c] Carbon dioxide equivalent (CO_2e) was calculated using the methodologies outlined in 40 CFR Part 98 and the following global warming potentials (GWP):

CO_2: 1
CH_4: 25
N_2O: 298

Table A-19
Summary of No. 4 Recovery Furnace Projected Actual Emissions
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[(a)]	Units	Emissions (tpy)
7040 No. 4 Recovery Furnace	Black Liquor Solids	PM filterable	0.10	lb/ton	Site Specific	749,600	ton	37.48
		PM_{10}	0.15	lb/ton	Applied percentage of PM filterable from NCASI Criteria Pollutants Database to Site Specific PM filterable data	749,600	ton	55.10
		$PM_{2.5}$	0.13	lb/ton	Applied percentage of PM filterable from NCASI Criteria Pollutants Database to Site Specific PM filterable data	749,600	ton	49.10
		NO_X	1.38	lb/ton	2011 Test	749,600	ton	517.22
		SO_2	0.37	lb/ton	NCASI Criteria Air Pollutants Database (2015 Version) for Recovery_Furnace_NDCE, Mean Value	749,600	ton	139.31
		CO	5.30	lb/ton	Site Specific Data based on 2012 - 2015 average	749,600	ton	1,986
		VOC	0.27	lb/ton	Engineering Judgement	749,600	ton	101.20
		Pb	2.10E-05	lb/ton	NCASI Criteria Air Pollutants Database (2013 Version) for Recovery_Furnace_NDCE, Mean Value	749,600	ton	7.87E-03
		TRS	3.96E-02	lb/ton	NCASI Air Toxics Database (2014 Version) for Recovery_Furnace_NDCE, Mean Value	749,600	ton	14.84
		H_2S	3.96E-02	lb/ton	Assumed equal to TRS	749,600	ton	14.84
		H_2SO_4	2.04E-02	lb/ton	NCASI Air Toxics Database (2014 Version) for Recovery_Furnace_NDCE, Mean Value	749,600	ton	7.65
		CO_2	94.40	kg CO_2/MMBtu	40 CFR Part 98 Subpart AA Table AA-1 Eq. AA-1	9,348,262	MMBtu	970,723
		CH_4	1.90E-03	kg CH_4/MMBtu	40 CFR Part 98 Subpart AA Table AA-1 Eq. AA-1	9,348,262	MMBtu	19.54
		N_2O	4.20E-04	kg N_2O/MMBtu	40 CFR Part 98 Subpart AA Table AA-1 Eq. AA-1	9,348,262	MMBtu	4.32
		CO_2e[(b)]						972,499
	Natural Gas	NO_X	196.06	lb/MMSCF	Engineering Judgment	173.20	MMSCF	16.98
		SO_2	0.60	lb/MMSCF	AP-42 Table 1.4-2	173.20	MMSCF	5.20E-02
		VOC	5.50	lb/MMSCF	NCASI Criteria Pollutants Database (2015 Version) for Boiler_NatGas_All Sizes_All Configurations, Mean Value	173.20	MMSCF	0.48
		Pb	5.00E-04	lb/MMSCF	AP-42 Table 1.4-2	173.20	MMSCF	4.33E-05
		CO_2	53.06	kg CO_2/MMBtu	40 CFR Part 98, Subpart C, Table C-1	178,722	MMBtu	10,431
		CH_4	1.00E-03	kg CH_4/MMBtu	40 CFR Part 98, Subpart C, Table C-2	178,722	MMBtu	0.20
		N_2O	1.00E-04	kg N_2O/MMBtu	40 CFR Part 98, Subpart C, Table C-2	178,722	MMBtu	1.97E-02
		CO_2e[(b)]						10,442

Table A-19 (Continued)
Summary of No. 4 Recovery Furnace Projected Actual Emissions
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[(a)]	Units	Emissions (tpy)
Total Projected Actual Emissions		PM filterable						37.48
		PM_{10}						55.10
		$PM_{2.5}$						49.10
		NO_X						534.20
		SO_2						139.36
		CO						1,986
		VOC						101.67
		Pb						7.91E-03
		TRS						14.84
		H_2S						14.84
		H_2SO_4						7.65
		CO_2						981,155
		CH_4						19.73
		N_2O						4.34
		Total GHG						981,179
		CO_2e						982,941

[(a)] Projected throughputs were developed by the Mill's engineers' estimates for the proposed project.
[(b)] Carbon dioxide equivalent (CO_2e) was calculated using the methodologies outlined in 40 CFR Part 98 and the following global warming potentials (GWP):

CO_2: 1
CH_4: 25
N_2O: 298

Table A-20
Summary of No. 4 Lime Kiln Projected Actual Emissions
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[a]	Units	Emissions (tpy)
6063 No. 4 Lime Kiln	No. 6 Fuel Oil	PM filterable	0.42	lb/ton CaO	Site Specific	5.59	ton	1.17E-03
		PM_{10}	0.46	lb/ton CaO	Site Specific	5.59	ton	1.28E-03
		$PM_{2.5}$	0.29	lb/ton CaO	Site Specific	5.59	ton	8.03E-04
		NO_X	1.15	lb/T CaO (Oil-In)	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP&/orWetScrub; Median Value Firing Oil	5.59	ton	3.22E-03
		SO_2	10.99	lb/kgal	AP-42 Table 1.3-1[b]	5.59	ton	3.07E-02
		CO	5.50E-02	lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Median value	5.59	ton	1.54E-04
		VOC	5.22E-02	lb/ton CaO	GEPD Fee Manual, which references NCASI TB No. 858	5.59	ton	1.46E-04
		Pb	1.99E-05	lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	5.59	ton	5.56E-08
		H_2SO_4	2.10E-02	lb/ton CaO (Oil-in)	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	5.59	ton	5.87E-05
		CO_2	75.10	kg CO_2/MMBtu	40 CFR Part 98, Subpart C, Table C-1	43.61	MMBtu	3.60
		CH_4	2.70E-03	kg CH_4/MMBtu	40 CFR Part 98, Subpart C, Table AA-2	43.61	MMBtu	1.30E-04
		N_2O	0	kg N_2O/MMBtu	40 CFR Part 98, Subpart AA, Table AA-2	43.61	MMBtu	0
		CO_2e[c]						3.61
	Natural Gas	PM filterable	0.42	lb/ton CaO	Site Specific	92,148	ton	19.35
		PM_{10}	0.46	lb/ton CaO	Site Specific	92,148	ton	21.09
		$PM_{2.5}$	0.29	lb/ton CaO	Site Specific	92,148	ton	13.23
		NO_X	0.70	lb/T CaO (Gas-In)	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP&/orWetScrub; Median Value Firing Gas	92,148	ton	32.25
		SO_2	0.60	lb/MMSCF	AP-42 Table 1.4-2	657.15	MMSCF	0.20
		CO	5.50E-02	lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	92,148	ton	2.53
		VOC	5.20E-02	lb/ton CaO	GEPD Fee Manual, which references NCASI TB No. 858	92,148	ton	2.40
		Pb	1.99E-05	lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	92,148	ton	9.17E-04
		H_2SO_4	6.80E-07	lb/ton CaO	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for Caustic_Lime_Kiln_ESP, Mean value	92,148	ton	3.13E-05
		CO_2	53.06	kg CO_2/MMBtu	40 CFR Part 98, Subpart C, Table C-1	678,118	MMBtu	39,579
		CH_4	2.70E-03	kg CH_4/MMBtu	40 CFR Part 98, Subpart AA, Table AA-2	678,118	MMBtu	2.01
		N_2O	1.00E-04	kg N_2O/MMBtu	40 CFR Part 98, Subpart AA, Table AA-2	678,118	MMBtu	7.46E-02
		CO_2e[c]						39,652

Table A-20 (Continued)
Summary of No. 4 Lime Kiln Projected Actual Emissions
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[a]	Units	Emissions (tpy)
6063 No. 4 Lime Kiln	All Fuels	TRS	0.92	tpy	The Mill applied the overall percent increase of paper production to the TRS emissions reported in the 2017 GAEIS to calculate the projected actual emissions	16.54%	Increase	1.07
		H_2S	0.92	tpy	Assumed equal to TRS	16.54%	Increase	1.07
Total Projected Actual Emissions		PM filterable						19.35
		PM_{10}						21.09
		$PM_{2.5}$						13.23
		NO_X						32.26
		SO_2						0.23
		CO						2.53
		VOC						2.40
		Pb						9.17E-04
		TRS						1.07
		H_2S						1.07
		H_2SO_4						9.01E-05
		CO_2						39,583
		CH_4						2.01
		N_2O						7.46E-02
		Total GHG						39,585
		CO_2e						39,655

[a] Projected throughputs were developed by the Mill's engineers' estimates for the proposed project.

[b] The Mill has applied a control efficiency of 80% to the Mill emissions factors based on historic data and control devices.

[c] Carbon dioxide equivalent (CO_2e) was calculated using the methodologies outlined in 40 CFR Part 98 and the following global warming potentials (GWP):

CO_2: 1
CH_4: 25
N_2O: 298

Table A-21
Summary of Projected Actual Emissions from Thermal Oxidizer and Associated Emissions Sources
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[(a)]	Units	Emissions (tpy)
6076 Thermal Oxidizer	Natural Gas	PM filterable	1.90	lb/MMSCF	AP-42, Table 1.4-2.	34.60	MMSCF	3.29E-02
		PM_{10}	7.60	lb/MMSCF	AP-42, Table 1.4-2.	34.60	MMSCF	0.13
		$PM_{2.5}$	7.60	lb/MMSCF	AP-42, Table 1.4-2.	34.60	MMSCF	0.13
	Pulp	SO_2	19.50	tpy	The Mill applied the overall percent increase of paper production to the most recent stack test data to calculate the projected actual emissions	16.54%	Increase	22.73
		CO	1.24E-02	lb/ADTUBP	NCASI TB 1020, Table 4.4. Median value.	751,999	ton	4.66
		VOC	3.50	tpy	The Mill applied the overall percent increase of paper production to the most recent stack test data to calculate the projected actual emissions	16.54%	Increase	4.08
		TRS	4.55E-04	lb/ADTUBP	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for NCG_Thermal_Oxidizer_Outlet, Median value	751,999	ton	0.17
		H_2S	4.55E-04	lb/ADTUBP	Assumed equal to TRS	751,999	ton	0.17
		H_2SO_4	4.90E-03	lb/ADTUBP	NCASI Pulp and Paper Air Toxics Database (October 2014 version) for NCG_Thermal_Oxidizer_Outlet, Median value	751,999	ton	1.84
G016 No. 3A Brown Stock Washer System	Pulp	TRS	0	lb/ADTUBP	Washer exhaust is collected and sent to Thermal Oxidizer where 100% destruction is assumed.	118,566	ton	0
G039 No. 4 Chemiwasher System	Pulp	TRS	0	lb/ADTUBP	Washer exhaust is collected and sent to Thermal Oxidizer where 100% destruction is assumed.	633,433	ton	0
G037 Digesters 1-9 System	Pulp	NO_X	5.18E-02	lb/ton	Mill Data - GAEIS 2015	676,799	ton	17.53
G038 Digester 10 System	Pulp	NO_X	5.83E-02	lb/ton	Historical Mill Factor	75,200	ton	2.19
G040 Multiple Effect Evaporator	Pulp	NO_X	5.83E-02	lb/ton	Historical Mill Factor	751,999	ton	21.90
G033 Turpentine System	Pulp	NO_X	5.83E-03	lb/ton	Historical Mill Factor	751,999	ton	2.19
4336 Condensate Stripper	Pulp	NO_X	0.12	lb/ton	Mill Data - GAEIS 2015	751,999	ton	44.18
Total Projected Actual Emissions		PM filterable						3.29E-02
		PM_{10}						0.13
		$PM_{2.5}$						0.13
		NO_X						87.99
		SO_2						22.73
		CO						4.66
		VOC						4.08
		TRS						0.17
		H_2S						0.17
		H_2SO_4						1.84

[(a)] Projected throughputs were developed by the Mill's engineers' estimates for the proposed project.

Table A-22
Summary of Projected Actual Emissions from Miscellaneous Emissions Sources
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[(a)]	Units	Emissions (tpy)
6025 Slaker	Lime	PM filterable	3.10E-02	lb/ton CaO	NCASI TB 884 Table 4.14	95,117	ton	1.47
		PM_{10}	2.79E-02	lb/ton CaO	NCASI TB 1020, Section 4.14.1	95,117	ton	1.33
		$PM_{2.5}$	1.55E-02	lb/ton CaO	NCASI TB 1020, Section 4.14.1	95,117	ton	0.74
		TRS	0	lb/ton CaO	Mill uses all fresh water in the causticizing system; negligible emissions from slaker.	95,117	ton	0
8009 Tall Oil Reactor Tank	Tall Oil	VOC	0.33	lb/ton TO	Average of October 29, 2013 testing and April 1, 2014 testing	32,602	ton	5.42
		TRS	1.93	lb/ton TO	Average of October 29, 2013 testing and April 1, 2014 testing	32,602	ton	31.38
		H_2S	1.93	lb/ton TO	Assumed equal to TRS	32,602	ton	31.38
G014 Paper Machine System	Paper	PM filterable	2.58E-02	lb/ADTFP	NCASI TB 942 Table F3, Source D	735,889	ton	9.51
		PM_{10}	4.24E-02	lb/ADTFP	NCASI TB 942 Table F3, Source D	735,889	ton	15.59
		$PM_{2.5}$	3.62E-02	lb/ADTFP	NCASI TB 942 Table F3, Source D	735,889	ton	13.31
		VOC	1.22	lb/ADTFP	NCASI TB 681 (see PM VOC EF tab)	735,889	ton	447.51
GG14 Paper Machine - Wet	Paper	VOC	0.20	lb/MDT	Historical Mill Factor	716,000	ton	71.60
4300 Black Liquor Pond	Black Liquor Solids	VOC	1.37E-02	lb/ton	Engineering Judgment	11,098	Ton	7.60E-02
G008 Chip Screen	Chips	PM filterable	5.70E-03	lb/ton chips	GAEIS 2009	2,516,180	Chips	7.17
		PM_{10}	5.70E-04	lb/ton chips	GAEIS 2009	2,516,180	Chips	0.72
G006 Bark Handling	Bark	PM filterable	2.80	tpy	The Mill applied the overall percent increase of paper production to the TRS emissions reported in the 2017 GAEIS to calculate the projected actual emissions	16.54%	Increase	3.26
		PM_{10}	1.40	tpy	The Mill applied the overall percent increase of paper production to the TRS emissions reported in the 2017 GAEIS to calculate the projected actual emissions	16.54%	Increase	1.63

Table A-22 (Continued)
Summary of Projected Actual Emissions from Miscellaneous Emissions Sources
Packaging Corporation of America - Valdosta Mill

Source	Throughput	Pollutant	Emissions Factor	Units	Emissions Factor Source	Throughput[(a)]	Units	Emissions (tpy)
Roadways	Pulp	PM filterable	1.22E-02	lb/ton	Roadway Calcs tab	751,999	tons	4.58
		PM_{10}	2.43E-03	lb/ton	Roadway Calcs tab	751,999	tons	0.92
		$PM_{2.5}$	5.98E-04	lb/ton	Roadway Calcs tab	751,999	tons	0.22
Drop Points - Chips	Chips	PM filterable	1.26E-02	lb/ton	NCASI SR 15-01, Table 5.20	2,516,180	ton	15.85
		PM_{10}	1.60E-04	lb/ton	NCASI SR 15-01, Table 6.1	2,516,180	ton	0.20
		$PM_{2.5}$	2.80E-05	lb/ton	NCASI SR 15-01, Table 6.1	2,516,180	ton	3.52E-02
Drop Points - Bark	Bark	PM filterable	0.13	lb/ton	NCASI SR 15-01, Table 5.20, Fresh Bark	424,051	ton	28.41
		PM_{10}	2.70E-03	lb/ton	NCASI SR 15-01, Table 6.1, Fresh Bark	424,051	ton	0.57
		$PM_{2.5}$	1.20E-03	lb/ton	NCASI SR 15-01, Table 6.1, Fresh Bark	424,051	ton	0.25
G030 Wastewater Treatment Plant	Pulp	VOC	0.70	lb/ADTUBP	2010 Mill-Specific Water9 Modeling	751,999	ton	264.87
		TRS	1.86E-02	lb/ADTUBP	Site specific Sampling	751,999	ton	7.00
		H_2S	1.86E-02	lb/ADTUBP	Assumed equal to TRS.	751,999	ton	7.00
HVLC Combustion	Pulp	SO_2	6.70	tpy	GAEIS 2009 - Stack Test Data	751,999	ton	6.70
		VOC	0.42	tpy	Stack Test Data	751,999	ton	0.42
Total Projected Actual Emissions		PM filterable						70.25
		PM_{10}						20.95
		$PM_{2.5}$						14.56
		SO_2						6.70
		VOC						789.89
		TRS						38.38
		H_2S						38.38

[(a)] Projected throughputs were developed by the Mill's engineers' estimates for the proposed project.

APPENDIX B –
BACT ANALYSIS SUPPORTING INFORMATION

Table B-1
Summary of RBLC Database for Similar Paper Machine VOC Emissions Limits
Packaging Corporation of America - Valdosta Mill

RBLC ID	Permit Issuance Date	Facility Name	Unit	Throughput	Throughput Units	Emissions Limit	Emissions Limit Unit	Emissions Limit (tpy)	Control
LA-0205	November 20, 2003	Louisiana Mill	Paper Machine No. 3 Save-all Chest	225,800	SWT/YR	0.5	LB VOC/Hour	1.9	None Feasible
LA-0205	November 20, 2003	Louisiana Mill	Paper Machine No. 4 Save-all Chest	118,300	SWT/YR	2	LB VOC/Hour	3.8	None Feasible
LA-0205	November 20, 2003	Louisiana Mill	Paper Machines Nos. 1 and 2 Mixing Tubs	136,200	SWT/YR EA.	2.3	LB VOC/Hour	3.9	None Feasible
LA-0205	November 20, 2003	Louisiana Mill	Paper Machine No. 3	225,800	SWT/YR	12	LB VOC/Hour	45.4	None Feasible
LA-0205	November 20, 2003	Louisiana Mill	Paper Machine No. 4	118,300	SWT/YR	47.9	LB VOC/Hour	91.5	None Feasible
LA-0205	November 20, 2003	Louisiana Mill	Paper Machines Nos. 1 and 2	136,200	SWT/YR EA.	55.1	LB VOC/Hour	93.3	None Feasible
WA-0322	May 11, 2004	The North Pacific Paper Corporation	Paper Machines	623,685	ADMT/yr	6488	LB VOC/Day	1184.1	N/A - Project netted out of PSD
WI-0216	June 8, 2004	Appleton Coated - Combined Locks Mill	Paper Machine #6 (S62A, P62A)	498	ADT/Day	1.4	LB VOC/ADT	127.2	Limits on raw materials, VOC additives, and use of market pulp
TX-0485	October 5, 2004	Inland Paperboard and Packaging Orange Mill	No. 1 Paper Machine			26.7	LB VOC/Hour	117	None Feasible
TX-0485	October 5, 2004	Inland Paperboard and Packaging Orange Mill	No. 2 Paper Machine			32.3	LB VOC/Hour	141.6	None Feasible
WA-0303	November 1, 2006	LongView Fibre Paper and Packaging, Inc	Paper Machines						Use of low VOC additives
AR-0099	May 31, 2007	Georgia Pacific Corporation - Crossett Paper Operations	Paper Machine #3	850	MDT/Day	0.31	LB VOC/MDT	48.1	New Substance Review Program, which uses lower VOC-containing chemicals if and/or when there is a chemical substitute available for currently used chemicals
AR-0099	May 31, 2007	Georgia Pacific Corporation - Crossett Paper Operations	Fine Paper Machine #1	1,050	MDT	0.54	LB VOC/MDT	103.5	New Substance Review Program, which uses lower VOC-containing chemicals if and/or when there is a chemical substitute available for currently used chemicals
AR-0099	May 31, 2007	Georgia Pacific Corporation - Crossett Paper Operations	Fine Paper Machine #2	1,050	MDT	0.89	LB VOC/MDT	170.5	New Substance Review Program, which uses lower VOC-containing chemicals if and/or when there is a chemical substitute available for currently used chemicals
AR-0099	May 31, 2007	Georgia Pacific Corporation - Crossett Paper Operations	Paper Machine #8	212	MDT/Day	1.29	LB VOC/MDT	49.9	New Substance Review Program, which uses lower VOC-containing chemicals if and/or when there is a chemical substitute available for currently used chemicals
AR-0099	May 31, 2007	Georgia Pacific Corporation - Crossett Paper Operations	Paper Machine #7	250	MDT/Day	1.78	LB VOC/MDT	81.2	New Substance Review Program, which uses lower VOC-containing chemicals if and/or when there is a chemical substitute available for currently used chemicals
AR-0099	May 31, 2007	Georgia Pacific Corporation - Crossett Paper Operations	Paper Machine #4	173	MDT/Day	2.47	LB VOC/MDT	78.0	New Substance Review Program, which uses lower VOC-containing chemicals if and/or when there is a chemical substitute available for currently used chemicals
AR-0099	May 31, 2007	Georgia Pacific Corporation - Crossett Paper Operations	Paper Machine #6	270	MDT/Day	2.48	LB VOC/MDT	122.2	New Substance Review Program, which uses lower VOC-containing chemicals if and/or when there is a chemical substitute available for currently used chemicals

Table B-1
Summary of RBLC Database for Similar Paper Machine VOC Emissions Limits
Packaging Corporation of America - Valdosta Mill

RBLC ID	Permit Issuance Date	Facility Name	Unit	Throughput	Throughput Units	Emissions Limit	Emissions Limit Unit	Emissions Limit (tpy)	Control
AR-0099	May 31, 2007	Georgia Pacific Corporation - Crossett Paper Operations	Paper Machine #5	97	MDT/Day	3.37	LB VOC/MDT	59.7	New Substance Review Program, which uses lower VOC-containing chemicals if and/or when there is a chemical substitute available for currently used chemicals
OK-0123	April 25, 2008	IP Valliant Paper Mill	Paper Machines						Good operating practices
AL-0270	June 11, 2014	Georgia Pacific Breton, LLC.	No. 1 Paper Machine	343,830	MDT	0.51	LB/ADTP	93.7	Uses low VOC materials
AL-0270	June 11, 2014	Georgia Pacific Breton, LLC.	No. 2 Paper Machine	492,020	MDT	0.51	LB/ADTFP	134	Uses low VOC materials
LA-0322	May 11, 2017	St. Francisville Mill	No. 1 Paper Machine	375,000	ADTFP/yr				Good operating practices, including the use of low VOC additives
AL-0324	March 16, 2018	International Paper - Riverdale Mill	No. 15 Paper Machine			2.36	LB/ADTP	433.7	None Feasible
ME-0043	15-May-18	Verso Androscoggin LLC	No. 3 and No. 5 Paper Machine						Good operating pratices

APPENDIX C –
AIR QUALITY MODELING SUPPORTING INFORMATION

Table C-1
Summary of Mill-Wide TAPs Emissions Rates
Packaging Corporation of America - Valdosta Mill

Toxic Air Pollutant[(a)]	CAS Number	Emissions rate per unit (lb/hr)								Total Emissions (lb/yr)	MER (lb/yr)
		Riley Combination Boiler	CE Combination Boiler	No. 3 Power Boiler	No. 4 Recovery Boiler	No. 4 Lime Kiln	Thermal Oxidizer	Tall Oil Reactor Tank	Paper Machine System		
Acrolein	107-02-8	3.52E-02	1.87E-02	--	--	5.79E-03	--	6.10E-03	4.17E-01	4,226	4.87
Benzene	71-43-2	6.51E-02	3.45E-02	3.92E-05	6.23E-02	9.68E-03	1.33E-02	4.69E-04	7.07E-02	2,243	31.63
Chromium (VI), Elemental & Compounds (as Cr)	7440-47-3	3.70E-04	1.96E-04	2.61E-05	1.40E-03	1.66E-04	--	--	--	18.94	0.02
Chromium(VI) Mist	18540-29-9	7.53E-05	4.00E-05	--	7.10E-04	--	--	--	--	7.23	0.02
Methyl Mercaptan	74-93-1	--	--	--	4.57E-01	1.06E-02	2.21E-02	2.90E-02	9.15E-01	12,558	116.81
Sulfuric Acid	7664-93-9	1.07E-02	4.57E-03	--	7.06E-01	7.15E-06	4.21E-01	--	--	10,004	116.81

(a) List of toxics was based on discussion with GEPD on November 2, 2018.

Table C-2
Packaging Corporation of America - Valdosta Mill
Summary of Air Toxics Results

Compound	CAS Number	Maximum 1-Hour Ground Level Concentration ($\mu g/m^3$)	Modeled 15-minute Concentration ($\mu g/m^3$)	15 Minute AAC ($\mu g/m^3$)	Below 1-hour Threshold?	Predicted Long Term Concentration ($\mu g/m^3$)[(a)]	Long Term AAC ($\mu g/m^3$)	Averaging Period	Below Long Term Threshold?
Acrolein	107-02-8	0.85	1.12	23.00	Yes	3.48E-02	2.00E-02	Annual	No
Benzene	71-43-2	0.14	0.19	1,600	Yes	7.17E-03	1.30E-01	Annual	Yes
Chromium (VI), Elemental & Compounds (as Cr)	7440-47-3	5.50E-04	7.26E-04	10.00	Yes	1.00E-05	8.30E-05	Annual	Yes
Chromium(VI) Mist	18540-29-9	--	--	--	--	--[(b)]	8.00E-05	Annual	Yes
Methyl Mercaptan	74-93-1	1.86	2.46	2,000	Yes	1.05	2.40	24-Hour	Yes
Sulfuric Acid	7664-93-9	1.00	1.32	300.00	Yes	0.26	2.40	24-Hour	Yes

(a) The long term averaging period is based on a 5-year annual average for all compounds except for Methyl Mercaptan and Sulfuric Acid, which are based on a 24-hour average.

(b) Predicted ground level concentration is below model precision.

Table C-3
Packaging Corporation of America - Valdosta Mill
Results of Site-Specific Acrolein Modeling

Receptor ID	X Coordinate (m) UTM (NAD83)	Y Coordinate (m) UTM (NAD83)	5-Year Maximum Annual Concentration ($\mu g/m^3$)	Below Threshold[(a)]
1	278,916	3,397,305	1.44E-02	Yes
2	278,934	3,397,345	1.54E-02	Yes
3	278,840	3,397,397	1.26E-02	Yes
4	278,877	3,397,603	8.59E-03	Yes
5	278,752	3,397,604	4.79E-03	Yes
6	278,582	3,397,568	4.00E-03	Yes
7	278,705	3,397,509	4.52E-03	Yes
8	278,721	3,398,114	8.11E-03	Yes
9	278,580	3,398,161	7.61E-03	Yes
10	278,624	3,398,128	7.95E-03	Yes
11	278,496	3,398,262	6.84E-03	Yes
12	278,453	3,398,308	6.39E-03	Yes
13	278,466	3,398,147	6.60E-03	Yes
14	278,651	3,397,970	7.13E-03	Yes
15	278,618	3,398,067	8.02E-03	Yes
16	278,673	3,398,010	7.90E-03	Yes
17	280,132	3,397,546	3.00E-03	Yes
18	280,483	3,397,621	2.04E-03	Yes
19	280,578	3,397,683	1.98E-03	Yes
20	280,827	3,397,717	1.66E-03	Yes
21	280,810	3,397,758	1.70E-03	Yes
22	280,764	3,397,583	1.58E-03	Yes
23	280,834	3,397,855	1.73E-03	Yes
24	280,591	3,398,046	1.87E-03	Yes
25	280,464	3,398,134	1.84E-03	Yes

(a)Long term AAC is 0.002 $\mu g/m^3$.

Residential Receptor Location

Source Location

0 200 400

Meters

N

Coordinate Datum: UTM NAD 83 Zone 17

Packaging Corporation of America
Valdosta, GA

Figure C-1
Residential Receptor Locations

11/15/18

Request for Determination of Need for a Class I AQRV Modeling Analysis

Facility Name (Company Name)	Packaging Corporation of America – Valdosta Mill
New Facility or Modification?	Modification
Source Type/BART Applicability	Pulp and Paper
Project Location (County/State/ Lat. & Long. in decimal degrees)	Lowndes County/Georgia/ 30.6943 -83.3046

Application Contacts

Applicant		*Consultant*		*Air Agency Permit Engineer*	
Company	Packaging Corporation of America – Valdosta Mill	**Company**	All4 LLC	**Agency**	Georgia Environmental Protection Division
Contact	Kurt Parks	**Contact**	Chuck Doyno	**Contact**	Heather Brown
Address	5495 Lake Park-Clyattville Road Clyattville, GA 31601	**Address**	300 Chastain Center Blvd, Suite 395 Kennesaw, GA 30144	**Address**	Air Protection Branch Georgia Environmental Protection Division 4244 International Parkway, Suite 120 Atlanta, GA 30354-3906
Phone #	229-559-2257	**Phone #**	678-460-0324 x204	**Phone #**	404-362-25119
Email	KParks@packagingcorp.com	**Email**	cdoyno@all4inc.com	**Email**	Heather.Brown@dnr.ga.gov

Briefly Describe the Proposed Project

Packaging Corporation of America is proposing to make physical changes to the Valdosta Mill's Paper Machine System and to revise the Mill's current Title V Operating Permit condition that limits the Mill's paper production capacity.

Proposed Emissions and BACT

Criteria Pollutant	***Emissions***		***Emission Factor (AP-42, Stack Test, Other?)***	***Proposed BACT***
	Maximum hourly[(a)] (lb/hr)	***Proposed Annual[(b)] (tons/yr)***		
Nitrogen Oxides	N/A	114.05	Various	N/A[(c)]
Sulfur Dioxide	N/A	37.96	Various	N/A – Minor modification
Particulate Matter	N/A	11.80	Various	N/A – Minor modification
Sulfuric Acid Mist	N/A	1.80	Various	N/A – Minor modification

Proximity to Class I Areas

Class I Area	Okefenokee Wilderness	Saint Marks Wilderness	Wolf Island Wilderness	Chassahowitzka Wilderness
Distance from Facility (km)	70	97	197	220

(a) The proposed project will not increase the short term capacity of any unit; therefore, there will be no short-term emissions increases as a result of the proposed project.

(b) Annual emissions are the total net emissions increases calculated following Step 1 of the Prevention of Significant Deteriorations (PSD) applicability analysis from all modified and affected emissions units.

(c) There are no modified NOx emissions sources. Therefore, BACT requirements are not triggered.

From: Chuck Doyno
Sent: Wednesday, October 31, 2018 8:58 AM
To: Meredith_Bond@fws.gov
Cc: jill_webster@fws.gov; Catherine_Collins@fws.gov; Brown, Heather; Rebekah Bowlds; Yan.Huang@dnr.ga.gov; Tian, Di
Subject: Packaging Corporation of America Valdosta Mill - Georgia PSD Application, Request for Determination
Attachments: Class I Request for Determination 10-31-18.pdf

Dear Ms. Bond:

On behalf of Packaging Corporation of America (PCA), I am notifying affected Class I Area (within 500 km of the project site) Federal Land Managers of a proposed project in Clyattville, Lowndes County, Georgia. A PSD modeling protocol was submitted to the Georgia Environmental Protection Division (EPD) Air Protection Branch on September 10, 2018. A complete PSD permit application will be submitted to EPD in the near future.

Attached is a PSD Permit Request for Determination, along with an excerpt from the PSD permit application summarizing the results for the FLAG Q/D analysis.

With this email, I am requesting your concurrence that the project has negligible impacts with respect to Class I AQRVs, and no further AQRV analyses are warranted. If you have any questions on the project, please feel free to contact me at 678-293-9424 or Rebekah Bowlds at 678-460-0324 x214.

Thanks,
Chuck

Chuck Doyno / Project Manager
cdoyno@all4inc.com / 678.293.9424 / Profile / LinkedIn

ALL4 / www.all4inc.com / Philadelphia / Atlanta / Houston / Washington DC
Articles / Training / Podcast / Awards / LinkedIn / Twitter / Facebook

// Your environmental compliance is clearly our business.

APPENDIX D –
GEOS FORMS

State of Georgia
Department of Natural Resources
Environmental Protection Division
Air Protection Branch

Stationary Source Permitting Program
4244 International Parkway, Suite 120
Atlanta, Georgia 30354
404/363-7000
Fax: 404/363-7100

EXPEDITED PERMITTING PROGRAM – APPLICATION FOR ENTRY TO PROGRAM FOR AIR PERMITS

EPD Use Only

Date Received: _____ Application No. _____

To be eligible for expedited review, this application form must be accompanied by the complete permit application for the type of air permit being requested, and a pre-application meeting with EPD must have been conducted.

1. Contact Information

Facility Name: Packaging Corporation of America - Valdosta Mill
AIRS No. (if known): 04-13- 185 - 0001
Contact Person: Kirk Thomas Title: Mill Manager
Telephone No.: (229) 559-2272 Alternate Phone No.: _____
Email Address: kthomas1@packagingcorp.com

If EPD is unable to contact me, please contact the alternate contact person:
Contact Person: Kurt Parks Title: Environmental and Technical Manager
Telephone No.: (229) 559-2257 Alternate Phone No.: _____
Email Address: kparks@packagingcorp.com

On Page 2 of this form, please check the appropriate box for which type of air permit you are requesting expedited review.

I have read the Expedited Review Program Standard Operating Procedures and accept all of the terms and conditions within. I understand that it is my responsibility to ensure an application of the highest quality is submitted and to address any requests for additional information by the deadline specified. I understand that submittal of this request form is not a guarantee that expedited review will be granted.

Signature: _____ Date: 11-12-18

2. Applying For Which Type Of Permit: (Please Check Appropriate Box)

Expedited Review Fees for Air Permits	
Permit Type – Please Check One	**Expedited Review Fee***
☐ Generic Permit: Concrete Batch Plant – Minor Source	$1,000
☐ Generic Permit: Concrete Batch Plant – Synthetic Minor Source	$1,500
☐ Generic Permit: Hot Mix Asphalt Plant – Synthetic Minor Source	$2,000
☐ Minor Source Permit (or Amendment)	$3,000
☐ Synthetic Minor Permit (or Amendment)	$4,000
☐ Major Source SIP Permit not subject to PSD or 112(g)	$6,000
☐ Title V 502(b)(10) Permit Amendment	$4,000
☐ Title V Minor Modification with Construction	$4,000
☐ Title V Significant Modification	$6,000
☐ Major Source SIP Permit subject to 112(g) but not subject to PSD	$15,000
☐ PSD Permit (or Amendment) not subject to NAAQS and/or PSD Increment Modeling	$15,000
☐ PSD Permit (or Amendment) subject to NAAQS and/or PSD Increment Modeling but not subject to Modeling for $PM_{2.5}$, NO_2, or SO_2	$20,000
■ PSD Permit (or Amendment) subject to NAAQS and/or PSD Increment Modeling for $PM_{2.5}$, NO_2, or SO_2	$25,000
☐ PSD Permit (or Amendment) subject to NAAQS and/or PSD Increment Modeling for $PM_{2.5}$, NO_2, or SO_2 and also impacting a Class I Area	$30,000
* Do not send fee payment with this form. Upon acceptance of application for the expedited permit program, EPD will notify you by phone. Fees must be paid via check to "Georgia Department of Natural Resources" within five (5) business days of acceptance.	

3. Comments.

This section is optional. Applicants may use this field to include specific comments or requests for EPD consideration. For example, the applicant may use this field to request a public hearing or to remind EPD of review time needs and/or expectations that may differ from the time frames in the procedures.

Title V Application

App ID: 279133 **Date Submited:**

Current Status: Pending

Today is Nov 19, 2018

A. GENERAL INFORMATION

Construction or Modification Date	
Project Description	PCA is proposing to make physical changes to various areas of the Mill to optimize its operations to accommodate a proposed increase in linerboard production. Due to corporate-wide redistribution of products at PCA's fleet of paper mills, the Valdosta Mill is continuing to produce heavier grades of paper. The proposed project includes physical modifications to the Paper Machine System to improve quality, and a revision to the Mill's annual paper production limit.

A.4 General Comment

Section A General Comment	SIP 391-3-1-.02(6) - Source Monitoring 40 CFR Part 64 - Compliance Assurance Monitoring [391-3-1-.02((11)] 40 CFR Part 82 Subpart B - Servicing of Motor Vehicle Air Conditioners 40 CFR Part 82 Subpart F - Recycling and Emissions Reduction 40 CFR Part 52.21 - Prevention of significant deterioration of air quality 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR Part 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines Are also applicable to the Facility.

A.1. APPLICATION INFORMATION

Application Processing	Standard
Application Reason	Modification
Application Type	Significant Modification with construction
A Summary of all the Modifications being made	The Mill is proposing to make the following modifications to the Paper Machine System: • Upgrade the headbox; • Upgrade the pulsation dampening (PD) stock feed tank and/or upgrade to low pulse hydrofoil assemblies for the three existing Bird screens; • Upgrade the dilution control header and dilution water supply pump.

PermitConditionChanges

PermitNumber:

PermitConditionNumber:

PermitRequestChange:

PermitReasonChange:

A.2. FACILITY INFORMATION

Facility	PACKAGING CORPORATION OF AMERICA
AIRS Number	18500001
Mailing Address 1	P.O. Box 1048
Mailing Address 2	
County	Lowndes
City	Valdosta

State	GA
Zip	31603
Latitude	
Longitude	
Does your facility have less than 100 employees?	No
SIC Code	2631 (Paperboard mills)
NAICS Code	322130 (Paperboard Mills)
Facility Description	Packaging Corporation of America (PCA) owns and operates a Kraft pulp and paper mill in Valdosta, Georgia (Valdosta Mill or Mill). The Mill operates under Title V Operating Permit (TVOP) No. 2631-185-0001-V-03-0, which became effective February 22, 2017. The Mill is a major source as defined by the Federal operating permit program (40 CFR Part 70) and the Federal New Source Review (NSR) program (40 CFR Part 52).

FacSignifProcess

ProcessName:	Pulping and Papermaking
Description:	The wood chips are transferred from the woodyard area and charged to one of ten batch digesters where they are cooked in white liquor (sodium hydroxide/sodium sulfate solution). The pulp is refined, screened, and washed to remove the excess spent cooking liquor. The washed pulp, commonly referred to as stock, is removed from the washers and stored in high- density stock tanks. The paper machine forms the stock into a continuous web, which is drained, pressed, dried and wound into large rolls of finished linerboard.
ProcessName:	Chemical Recovery
Description:	The black liquor collected at the brown stock washers is reprocessed back into white liquor for reuse in the chemical recovery cycle. The black liquor is concentrated to 45-55% solids in a 6-effect multiple effect evaporator (MEE), followed by a set of Reynolds Enhanced Crystallizer (REX) concentrators which bring the liquor solids content up to 68% and a REX unit operated as a high solids crystallizer, which then brings the liquor solids up to 73-75% for firing in the recovery furnace.
ProcessName:	Turpentine and Tall Oil
Description:	Turpentine is recovered by condensing digester relief gases. Tall oil is a co-product of the black liquor evaporation process. In the evaporators, black liquor soap is skimmed from the black liquor and stored. The soap results from the oils in the wood chips and the sodium in the cooking liquors in the digesters. The oils are converted into sodium soaps, which dissolve in the black liquor. When the black liquor is concentrated in the evaporators, the soap becomes insoluble and separates from the liquor. The soap is then skimmed off and converted into tall oil in a batch reactor by mixing it with sulfuric acid. The tall oil is typically sold for use as a feed stock in the chemical industry.
ProcessName:	Power Boilers and Utilities
Description:	The power boilers provide 800lb steam, which is used to drive two steam turbine-generators and provide live steam to the process. The Mill utilities also include a water plant that provides process water, cooling water and boiler feed-water, and air compressors that provide instrument air and process air. There are 5 cooling towers.
ProcessName:	Maintenance

Description:	The Mill has on-site maintenance facilities that provide maintenance support for the Mill operations.

ProcessName:	Landfill and Residuals Management
Description:	The Mill has an on-site industrial landfill that is used for Mill-generated waste materials only. Also, various solid process residuals are screened and/or blended for beneficial reuse products by an independent contractor on land leased from PCA.

FacCAPEmissions

PollutantID:	CO
PTE:	250
AllowableLimitRequested:	
AllowableLimit:	
PastMax:	
DateStart:	
DateEnd:	
FutureMax:	

PollutantID:	H2S
PTE:	100
AllowableLimitRequested:	
AllowableLimit:	
PastMax:	
DateStart:	
DateEnd:	
FutureMax:	

PollutantID:	SO2
PTE:	250
AllowableLimitRequested:	
AllowableLimit:	
PastMax:	
DateStart:	
DateEnd:	
FutureMax:	

PollutantID:	NOX
PTE:	250
AllowableLimitRequested:	
AllowableLimit:	
PastMax:	
DateStart:	
DateEnd:	
FutureMax:	

PollutantID:	PM
PTE:	250
AllowableLimitRequested:	
AllowableLimit:	

PastMax:
DateStart:
DateEnd:
FutureMax:

PollutantID: PM-PRI
PTE: 250
AllowableLimitRequested:
AllowableLimit:
PastMax:
DateStart:
DateEnd:
FutureMax:

PollutantID: TRS
PTE: 250
AllowableLimitRequested:
AllowableLimit:
PastMax:
DateStart:
DateEnd:
FutureMax:

PollutantID: TOTAL-HAP
PTE: 25
AllowableLimitRequested:
AllowableLimit:
PastMax:
DateStart:
DateEnd:
FutureMax:

PollutantID: VOC
PTE: 250
AllowableLimitRequested:
AllowableLimit:
PastMax:
DateStart:
DateEnd:
FutureMax:

FacCAPOther

PollutantID:
PTE:
AllowableLimitRequested:
AllowableLimit:
PastMax:
DateStart:
DateEnd:

FutureMax:

A.2.3 Facility Wide HAP Emissions

Total Facility Wide HAP PTE(tpy)

A.3. Title VI Level

Does our facility have any air conditioners or refrigeration equipment that uses CFC’s, HFC’s or other stratospheric ozone-depleting substances listed in 40 CFR Part 82, Subpart A, Appendices A and B?	true
Does any air conditioner or any piece of refrigeration equipment contain a refrigerant charge of greater than 50 lbs?	true
Do your facility personnel maintain, services, repair, or dispose of any motor vehicle air conditioners (MVAC’s) or appliances?	false

Titile VI Comment

Equipment

EquipmentName:

NoOfUnits:

FacVOCEmissions

CasNumber:

VOCName:

PTE:

A. GENERAL INFORMATION

This application includes Information the Applicant Claims is Protected Under Georgia Law from Disclosure to the Public:	No

FacHAPEmissions

* [Group 1]

PollutantName:	Acetaldehyde
PollutantID:	472
PollutantCd:	75070
SubDescription:	Acetaldehyde
SubstanceChemName:	HAP
CasNumber:	
PTE:	25
AllowableLimitRequested:	No
AllowableLimit:	

* [Group 2]

PollutantName:	Arsenic & Compounds (Inorganic Including Arsine)
PollutantID:	577
PollutantCd:	93
SubDescription:	Arsenic & Compounds (Inorganic Including Arsine)
SubstanceChemName:	HAP
CasNumber:	

PTE: 10
AllowableLimitRequested: No
AllowableLimit:

* [Group 3]
PollutantName: Beryllium & Compounds
PollutantID: 66
PollutantCd: 109
SubDescription: Beryllium & Compounds
SubstanceChemName: HAP
CasNumber:
PTE: 10
AllowableLimitRequested: No
AllowableLimit:

* [Group 4]
PollutantName: Cadmium & Compounds
PollutantID: 124
PollutantCd: 125
SubDescription: Cadmium & Compounds
SubstanceChemName: HAP
CasNumber:
PTE: 10
AllowableLimitRequested: No
AllowableLimit:

* [Group 5]
PollutantName: Chromium & Compounds
PollutantID: 183
PollutantCd: 136
SubDescription: Chromium & Compounds
SubstanceChemName: HAP
CasNumber:
PTE: 10
AllowableLimitRequested: No
AllowableLimit:

* [Group 6]
PollutantName: Hydrochloric Acid
PollutantID: 487
PollutantCd: 7647010
SubDescription: Hydrochloric Acid
SubstanceChemName: HAP
CasNumber:
PTE: 25
AllowableLimitRequested: No
AllowableLimit:

* [Group 7]

PollutantName: Lead & Compounds
PollutantID: 244
PollutantCd: 195
SubDescription: Lead & Compounds
SubstanceChemName: HAP
CasNumber:
PTE: 10
AllowableLimitRequested: No
AllowableLimit:

* [Group 8]
PollutantName: Manganese & Compounds
PollutantID: 246
PollutantCd: 198
SubDescription: Manganese & Compounds
SubstanceChemName: HAP
CasNumber:
PTE: 10
AllowableLimitRequested: No
AllowableLimit:

* [Group 9]
PollutantName: Methanol
PollutantID: 429
PollutantCd: 67561
SubDescription: Methanol
SubstanceChemName: HAP
CasNumber:
PTE: 25
AllowableLimitRequested: No
AllowableLimit:

* [Group 10]
PollutantName: Methyl Isobutyl Ketone
PollutantID: 58
PollutantCd: 108101
SubDescription: Methyl Isobutyl Ketone
SubstanceChemName: HAP
CasNumber:
PTE: 10
AllowableLimitRequested: No
AllowableLimit:

* [Group 11]
PollutantName: Nickel & Compounds
PollutantID: 267
PollutantCd: 226
SubDescription: Nickel & Compounds
SubstanceChemName: HAP

CasNumber:
PTE: 10
AllowableLimitRequested: No
AllowableLimit:

* [Group 12]
PollutantName: Selenium & Compounds
PollutantID: 284
PollutantCd: 253
SubDescription: Selenium & Compounds
SubstanceChemName: HAP
CasNumber:
PTE: 10
AllowableLimitRequested: No
AllowableLimit:

* [Group 13]
PollutantName: Toluene
PollutantID: 63
PollutantCd: 108883
SubDescription: Toluene
SubstanceChemName: HAP
CasNumber:
PTE: 10
AllowableLimitRequested: No
AllowableLimit:

* [Group 14]
PollutantName: Xylenes (Mixed Isomers)
PollutantID: 165
PollutantCd: 1330207
SubDescription: Xylenes (Mixed Isomers)
SubstanceChemName: HAP
CasNumber:
PTE: 10
AllowableLimitRequested: No
AllowableLimit:

FacilityRule

* [Group 1]
RuleID: 145
RefType: MACT(Part 63)
RefCode: DDDDD
Description: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

* [Group 2]
RuleID: 15
RefType: SIP

RefCode: .02(2)(e)
Description: Particulate Emission from Manufacturing Processes

* [Group 3]
RuleID: 12
RefType: SIP
RefCode: .02(2)(d)
Description: Fuel-burning Equipment

* [Group 4]
RuleID: 9
RefType: SIP
RefCode: .02(2)(c)
Description: Incinerators

* [Group 5]
RuleID: 6
RefType: SIP
RefCode: .02(2)(b)
Description: Visible Emissions

* [Group 6]
RuleID: 40
RefType: SIP
RefCode: .02(2)(n)
Description: Fugitive Dust

* [Group 7]
RuleID: 21
RefType: SIP
RefCode: .02(2)(gg)
Description: Kraft Pulp Mills

* [Group 8]
RuleID: 20
RefType: SIP
RefCode: .02(2)(g)
Description: Sulfur Dioxide

* [Group 9]
RuleID: 18
RefType: SIP
RefCode: .02(2)(ff)
Description: Solvent Metal Cleaning

* [Group 10]
RuleID: 3
RefType: SIP
RefCode: .02(2)(5)
Description: Open Burning

* [Group 11]
RuleID: 2
RefType: SIP
RefCode: .02(2)(3)
Description: Sampling

* [Group 12]
RuleID: 111
RefType: NSPS(Part 60)
RefCode: BB
Description: Standards of Performance for Kraft Pulp Mills

* [Group 13]
RuleID: 96
RefType: NSPS(Part 60)
RefCode: A
Description: General Provisions

* [Group 14]
RuleID: 137
RefType: NSPS(Part 60)
RefCode: Dc
Description: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

* [Group 15]
RuleID: 95
RefType: NESHAP(Part 61)
RefCode: A
Description: General Provisions

* [Group 16]
RuleID: 230
RefType: NESHAP(Part 61)
RefCode: M
Description: National Emission Standard for Asbestos

* [Group 17]
RuleID: 94
RefType: MACT(Part 63)
RefCode: A
Description: General Provisions

* [Group 18]
RuleID: 106
RefType: MACT(Part 63)
RefCode: B
Description: Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections, Sections 112(g) and 112(j)

* [Group 19]

RuleID:	232
RefType:	MACT(Part 63)
RefCode:	MM
Description:	National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills

* [Group 20]

RuleID:	282
RefType:	MACT(Part 63)
RefCode:	S
Description:	National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry

* [Group 21]

RuleID:	276
RefType:	MACT(Part 63)
RefCode:	RR
Description:	National Emission Standards for Individual Drain Systems

* [Group 22]

RuleID:	354
RefType:	Other
RefCode:	OTH
Description:	Other - Facility Wide Rule

* [Group 23]

RuleID:	136
RefType:	NSPS(Part 60)
RefCode:	Db
Description:	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Title V Application

App ID: 279133 **Date Submited:**

Current Status: Pending

Today is Nov 19, 2018

General Comment

Section B General Comment

FacContact

* [Group 1]

FirstName:	Kirk
LastName:	Thomas
Responsibility:	Facility Air Responsible Official
Phone:	2295597911
Email:	kthomas1@packagingcorp.com
Address1:	Packaging Corporation of America Inc.
Address2:	P.O. Box 1048
City:	Valdosta
State:	GA
Zip:	31603

-- Detail --:

First Name: Kirk
Last Name: Thomas
Job Title: Mill Manager
Responsibility: Facility Air Responsible Official
E-mail: kthomas1@packagingcorp.com
Phone Number: 2295597911
Address Line 1: Packaging Corporation of America Inc.
Address Line 2: P.O. Box 1048
City: Valdosta
State: GA
Zip: 31603

* [Group 2]

FirstName:	Kurt
LastName:	Parks
Responsibility:	Facility Air Compliance Contact
Phone:	2295592257
Email:	kparks@packagingcorp.com
Address1:	Packaging Corporation of America Inc.
Address2:	P.O. Box 1048
City:	Valdosta
State:	GA
Zip:	31603

-- Detail --:

First Name: Kurt
Last Name: Parks
Job Title: EHS Manager
Responsibility: Facility Air Compliance Contact

E-mail: kparks@packagingcorp.com
Phone Number: 2295592257
Address Line 1: Packaging Corporation of America Inc.
Address Line 2: P.O. Box 1048
City: Valdosta
State: GA
Zip: 31603

* [Group 3]

FirstName:	Kurt
LastName:	Parks
Responsibility:	Facility Air Permit Contact
Phone:	2295592257
Email:	kparks@packagingcorp.com
Address1:	Packaging Corporation of America Inc.
Address2:	P.O. Box 1048
City:	Valdosta
State:	GA
Zip:	31603

-- Detail --:

First Name: Kurt
Last Name: Parks
Job Title: EHS Manager
Responsibility: Facility Air Permit Contact
E-mail: kparks@packagingcorp.com
Phone Number: 2295592257
Address Line 1: Packaging Corporation of America Inc.
Address Line 2: P.O. Box 1048
City: Valdosta
State: GA
Zip: 31603

* [Group 4]

FirstName:	Kurt
LastName:	Parks
Responsibility:	Facility Air Fee Contact
Phone:	2295592257
Email:	kparks@packagingcorp.com
Address1:	Packaging Corporation of America Inc.
Address2:	P.O. Box 1048
City:	Valdosta
State:	GA
Zip:	31603

-- Detail --:

First Name: Kurt
Last Name: Parks
Job Title: EHS Manager

Responsibility: Facility Air Fee Contact
E-mail: kparks@packagingcorp.com
Phone Number: 2295592257
Address Line 1: Packaging Corporation of America Inc.
Address Line 2: P.O. Box 1048
City: Valdosta
State: GA
Zip: 31603

* [Group 5]

FirstName:	Kurt
LastName:	Parks
Responsibility:	Facility Air EI Contact
Phone:	2295592257
Email:	kparks@packagingcorp.com
Address1:	Packaging Corporation of America Inc.
Address2:	P.O. Box 1048
City:	Valdosta
State:	GA
Zip:	31603

-- Detail --:

First Name: Kurt
Last Name: Parks
Job Title: EHS Manager
Responsibility: Facility Air EI Contact
E-mail: kparks@packagingcorp.com
Phone Number: 2295592257
Address Line 1: Packaging Corporation of America Inc.
Address Line 2: P.O. Box 1048
City: Valdosta
State: GA
Zip: 31603

* [Group 6]

FirstName:	Kurt
LastName:	Parks
Responsibility:	Facility Air Monitoring Contact
Phone:	2295592257
Email:	kparks@packagingcorp.com
Address1:	Packaging Corporation of America Inc.
Address2:	P.O. Box 1048
City:	Valdosta
State:	GA
Zip:	31603

-- Detail --:

First Name: Kurt
Last Name: Parks

Job Title: EHS Manager
Responsibility: Facility Air Monitoring Contact
E-mail: kparks@packagingcorp.com
Phone Number: 2295592257
Address Line 1: Packaging Corporation of America Inc.
Address Line 2: P.O. Box 1048
City: Valdosta
State: GA
Zip: 31603

Title V Application

App ID: 279133 **Date Submited:**

Current Status: Pending

Today is Nov 19, 2018

C.3. Generic Fuel Burning Equipment

Fuel burning equipment with a rated heat input capacity of less than 10 million BTU/hr burning only natural gas and/or LPG. Quantity:

Quantity in Compliance:

Comment:

Fuel burning equipment with a rated heat input capacity of less than 5 million BTU/hr, burning only distillate fuel oil, natural gas and/or LPG. Quantity:

Quantity in Compliance:

Comment:

Any fuel burning equipment with a rated heat input capacity of 1 million BTU/hr or less. Quantity:

Quantity in Compliance:

Comment:

InsignificantActAnyOther

Name:

Quantity:

Comment:

InsignificantActLT10000

Name:

Quantity:

Comment:

InsignificantActLT2500

Name:

Quantity:

Comment:

InsignificantActLT5000

Name:

Quantity:

Comment:

C.6 General Comment

Section C General Comment

GenericEmissionsGroup

GenericGroupName:

NumberOfUnits:

NumberOutofCompliance:

GARuleB:

GARuleE:

GARuleN:

Comment:

Title V Application

App ID: 279133 **Date Submited:**

Current Status: Pending

Today is Nov 19, 2018

General Comment

Section D General Comment

Title V Application

App ID: 279133 **Date Submited:**

Current Status: Pending

Today is Nov 19, 2018

General Comment

Section E General Comment	The value of 999 has been entered to signify that information is unknown (i.e., 999 = unknown).

ReleasePoint

* [Group 1]

ReleasePointID:	S035
ReleasePointName:	ST-03035B Press Section Uhle Box Seal Pit
ReleasePointType:	Vertical with Rain Cap
Height:	69
Diameter:	999
ExitGasVelocity:	999
ExitGasFlowRate:	999
ExitGasTemperature:	999
FenceLineDistance:	
FugitiveHeight:	
FugitiveWidth:	
FugitiveLength:	
FugitiveAngle:	
Latitude:	30.694599
Longitude:	-83.305322
Elevation:	
HorizontalAccuracyMeasure:	
HorizontalCollectionMethod:	
HorizontalReferenceDatum:	
GeographicComment:	
Comment:	

-- Detail --:

Release Point ID: S035
Release Point Name: ST-03035B Press Section Uhle Box Seal Pit
Release Point Type: Vertical with Rain Cap
Stack Height (ft): 69
Stack Diameter (ft): 999
Exit Gas Velocity (ft/min): 999
Exit Gas Flow Rate (ACFM): 999
Exit Gas Temperature (Fahrenheit): 999
Latitude Measure: 30.694599
Longitude Measure: -83.305322

* [Group 2]

ReleasePointID:	S037
ReleasePointName:	ST-03054 Vacuum Stand Pipe
ReleasePointType:	Vertical with Rain Cap

Height: 69
Diameter: 999
ExitGasVelocity: 999
ExitGasFlowRate: 999
ExitGasTemperature: 999
FenceLineDistance:
FugitiveHeight:
FugitiveWidth:
FugitiveLength:
FugitiveAngle:
Latitude: 30.694554
Longitude: -83.305251
Elevation:
HorizontalAccuracyMeasure:
HorizontalCollectionMethod:
HorizontalReferenceDatum:
GeographicComment:
Comment:
-- Detail --:

Release Point ID: S037
Release Point Name: ST-03054 Vacuum Stand Pipe
Release Point Type: Vertical with Rain Cap
Stack Height (ft): 69
Stack Diameter (ft): 999
Exit Gas Velocity (ft/min): 999
Exit Gas Flow Rate (ACFM): 999
Exit Gas Temperature (Fahrenheit): 999
Latitude Measure: 30.694554
Longitude Measure: -83.305251

* [Group 3]
ReleasePointID: S038
ReleasePointName: ST-03054A Exhaust fan for Mezzanine Floor
ReleasePointType: Vertical with Rain Cap
Height: 69
Diameter: 999
ExitGasVelocity: 999
ExitGasFlowRate: 999
ExitGasTemperature: 999
FenceLineDistance:
FugitiveHeight:
FugitiveWidth:
FugitiveLength:
FugitiveAngle:
Latitude: 30.694533
Longitude: -83.305214
Elevation:

HorizontalAccuracyMeasure:
HorizontalCollectionMethod:
HorizontalReferenceDatum:
GeographicComment:
Comment:
-- Detail --:

Release Point ID: S038
Release Point Name: ST-03054A Exhaust fan for Mezzanine Floor
Release Point Type: Vertical with Rain Cap
Stack Height (ft): 69
Stack Diameter (ft): 999
Exit Gas Velocity (ft/min): 999
Exit Gas Flow Rate (ACFM): 999
Exit Gas Temperature (Fahrenheit): 999
Latitude Measure: 30.694533
Longitude Measure: -83.305214

* [Group 4]

ReleasePointID: S039
ReleasePointName: ST-03054B Exhaust Pipes
ReleasePointType: Vertical with Rain Cap
Height: 69
Diameter: 999
ExitGasVelocity: 999
ExitGasFlowRate: 999
ExitGasTemperature: 999
FenceLineDistance:
FugitiveHeight:
FugitiveWidth:
FugitiveLength:
FugitiveAngle:
Latitude: 30.694517
Longitude: -83.305172
Elevation:
HorizontalAccuracyMeasure:
HorizontalCollectionMethod:
HorizontalReferenceDatum:
GeographicComment:
Comment:
-- Detail --:

Release Point ID: S039
Release Point Name: ST-03054B Exhaust Pipes
Release Point Type: Vertical with Rain Cap
Stack Height (ft): 69
Stack Diameter (ft): 999
Exit Gas Velocity (ft/min): 999

Exit Gas Flow Rate (ACFM): 999
Exit Gas Temperature (Fahrenheit): 999
Latitude Measure: 30.694517
Longitude Measure: -83.305172

* [Group 5]
ReleasePointID: S040
ReleasePointName: ST-03054C Hood Fans
ReleasePointType: Vertical with Rain Cap
Height: 69
Diameter: 999
ExitGasVelocity: 999
ExitGasFlowRate: 999
ExitGasTemperature: 999
FenceLineDistance:
FugitiveHeight:
FugitiveWidth:
FugitiveLength:
FugitiveAngle:
Latitude: 30.694486
Longitude: -83.305106
Elevation:
HorizontalAccuracyMeasure:
HorizontalCollectionMethod:
HorizontalReferenceDatum:
GeographicComment:
Comment:
-- Detail --:
Release Point ID: S040
Release Point Name: ST-03054C Hood Fans
Release Point Type: Vertical with Rain Cap
Stack Height (ft): 69
Stack Diameter (ft): 999
Exit Gas Velocity (ft/min): 999
Exit Gas Flow Rate (ACFM): 999
Exit Gas Temperature (Fahrenheit): 999
Latitude Measure: 30.694486
Longitude Measure: -83.305106

* [Group 6]
ReleasePointID: S041
ReleasePointName: ST-03057 Strainers Dump Tank
ReleasePointType: Vertical with Rain Cap
Height: 69
Diameter: 999
ExitGasVelocity: 999
ExitGasFlowRate: 999

ExitGasTemperature: 999
FenceLineDistance:
FugitiveHeight:
FugitiveWidth:
FugitiveLength:
FugitiveAngle:
Latitude: 30.694463
Longitude: -83.305071
Elevation:
HorizontalAccuracyMeasure:
HorizontalCollectionMethod:
HorizontalReferenceDatum:
GeographicComment:
Comment:
-- Detail --:

Release Point ID: S041
Release Point Name: ST-03057 Strainers Dump Tank
Release Point Type: Vertical with Rain Cap
Stack Height (ft): 69
Stack Diameter (ft): 999
Exit Gas Velocity (ft/min): 999
Exit Gas Flow Rate (ACFM): 999
Exit Gas Temperature (Fahrenheit): 999
Latitude Measure: 30.694463
Longitude Measure: -83.305071

* [Group 7]
ReleasePointID: S205
ReleasePointName: Paper Machine Building Vent Fans
ReleasePointType: Vertical with Rain Cap
Height: 69
Diameter: 999
ExitGasVelocity: 999
ExitGasFlowRate: 999
ExitGasTemperature: 999
FenceLineDistance:
FugitiveHeight:
FugitiveWidth:
FugitiveLength:
FugitiveAngle:
Latitude: 30.694447
Longitude: -83.305029
Elevation:
HorizontalAccuracyMeasure:
HorizontalCollectionMethod:
HorizontalReferenceDatum:
GeographicComment:

Comment:

-- Detail --:

Release Point ID: S205
Release Point Name: Paper Machine Building Vent Fans
Release Point Type: Vertical with Rain Cap
Stack Height (ft): 69
Stack Diameter (ft): 999
Exit Gas Velocity (ft/min): 999
Exit Gas Flow Rate (ACFM): 999
Exit Gas Temperature (Fahrenheit): 999
Latitude Measure: 30.694447
Longitude Measure: -83.305029

Title V Application

App ID: 279133 **Date Submited:**

Current Status: Pending

Today is Nov 19, 2018

General Comment

Section F General Comment: 40 CFR Part 52.21 is also applicable to the Paper Machine.

EmissionUnit

* [Group 1]

EUID: Paper Machine System
EUType: Miscellaneous
InstallationDate:
Description:
-- Detail --:

Emission Unit Type: 10
Emission Source Identifier: Paper Machine System
Emission Source Name: Paper Machine System
InputOutput: Output
Material: Oven Dried tons of Finished Product
MaterialType: Paper
MaxAnnualInput: 662300
MaxAnnualInputUnit: tons per year
ReleasePointID: S035
ReleasePointType: Vertical with Rain Cap
Latitude: 30.694599
Longitude: -83.305322
Height: 69
ReleasePointID: S037
ReleasePointType: Vertical with Rain Cap
Latitude: 30.694554
Longitude: -83.305251
Height: 69
ReleasePointID: S038
ReleasePointType: Vertical with Rain Cap
Latitude: 30.694533
Longitude: -83.305214
Height: 69
ReleasePointID: S039
ReleasePointType: Vertical with Rain Cap
Latitude: 30.694517
Longitude: -83.305172
Height: 69
ReleasePointID: S040
ReleasePointType: Vertical with Rain Cap
Latitude: 30.694486
Longitude: -83.305106
Height: 69

ReleasePointID: S041
ReleasePointType: Vertical with Rain Cap
Latitude: 30.694463
Longitude: -83.305071
Height: 69
ReleasePointID: S205
ReleasePointType: Vertical with Rain Cap
Latitude: 30.694447
Longitude: -83.305029
Height: 69
RuleID: 40
RefType: SIP
RefCode: .02(2)(n)
Description: Fugitive Dust
RuleID: 15
RefType: SIP
RefCode: .02(2)(e)
Description: Particulate Emission from Manufacturing Processes
RuleID: 6
RefType: SIP
RefCode: .02(2)(b)
Description: Visible Emissions

Title V Application

App ID: 279133 **Date Submited:**

Current Status: Pending

Today is Nov 19, 2018

General Comment

Section G General Comment

EmissionGroup

* [Group 1]

EGID:	Paper Machine System
EGType:	Single Emissions Path (SEP)
NoSpecificMonitoring:	Yes
NoSpecificTesting:	Yes
Description:	
EmissionSource:	Paper Machine System(Type: Miscellaneous)

-- Detail --:

Emission Path Group Type: Single Emissions Path (SEP)
Emission Path Group Identifier: Paper Machine System
Check here if no specific monitoring needed: true
Check here if no specific testing needed: true
EUID: Paper Machine System
EUType: Miscellaneous

Title V Application

App ID: 279133 **Date Submited:**

Current Status: Pending

Today is Nov 19, 2018

General Comment

Section H General Comment

ActivityEmission

* [Group 1]

EGID:	Paper Machine System
EGType:	Single Emissions Path (SEP)
NoSpecificMonitoring:	Yes
NoSpecificTesting:	Yes
EmissionDataFilled:	No
Description:	

-- Detail --:

Emission Path Group Type: Single Emissions Path (SEP)
Emission Path Group Identifier: Paper Machine System
Check here if no specific monitoring needed: true
Check here if no specific testing needed: true
EUID: Paper Machine System
EUType: Miscellaneous

Title V Application

App ID: 279133 **Date Submited:**

Current Status: Pending

Today is Nov 19, 2018

General Comment

Section I General Comment

MonitoringTesting

* [Group 1]

EGID: Paper Machine System
EGType: Single Emissions Path (SEP)
NoSpecificMonitoring: Yes
NoSpecificTesting: Yes
MonitoringDataFilled: No
TestingDataFilled: No
-- Detail --:

Emission Path Group Type: Single Emissions Path (SEP)
Emission Path Group Identifier: Paper Machine System
Check here if no specific monitoring needed: true
Check here if no specific testing needed: true
EUID: Paper Machine System
EUType: Miscellaneous

Description:

Title V Application

App ID: 279133 **Date Submited:**

Current Status: Pending

Today is Nov 19, 2018

General Comment

Section J General Comment