

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

**MEMORANDUM**

**February 28, 2018**

**TO:** Phillip Fielder, P.E., Permits and Engineering Group Manager

**THROUGH:** Rick Groshong, Environmental Programs Manager,  
Compliance and Enforcement

**THROUGH:** Phil Martin, P.E., Manager, Existing Source Permits Section

**THROUGH:** Lisa Cox, P.E., Existing Source Permits Section

**FROM:** Amalia Talty, P.E., Existing Source Permits Section

**SUBJECT:** Evaluation of Permit Application No. **2013-0465-C (M-10)**  
International Paper - IP Valliant Paper Mill  
Facility ID 1733  
Secs. 26, 27, 28, 33 and 34-T6S-R21E  
Valliant, McCurtain County, Oklahoma  
Latitude 33.99908°, Longitude 95.11030°  
Directions: Beginning in Idabel, OK, proceed west on Hwy 70 to the  
town of Valliant, OK. The mill is located immediately west of Valliant  
on the south side of Hwy 70.

**SECTION I. INTRODUCTION**

International Paper (IP) has submitted an application for a construction permit modification to make changes to their IP Valliant Paper Mill (SIC 2631, NAIC 32213). The facility currently operates under Permit No. 2013-0465-TVR (M-7) which was issued on July 7, 2016. IP is proposing to make changes to two (2) of the mills functional areas during the 3<sup>rd</sup> quarter of 2018. The changes are proposed to occur in Functional Area A (related to pulping) and Functional Area E (related to chemical recovery).

The IP Valliant Mill was issued a Plantwide Applicability Limit (PAL) for the following regulated NSR pollutants: PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, CO, Fluorides (expressed as HF), Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>), TRS, H<sub>2</sub>S, and Pb. This will allow the facility to make future operational changes that would otherwise be considered major modifications under the major NSR. The facility is allowed to make these changes without triggering major NSR so long as total actual emissions from the facility following the change remain below the applicable PAL level and other applicable regulations are met. The IP Valliant PAL permit application does include emissions of the Valliant Chips collocated facility in the PAL permit evaluation. The PAL ten-year effective period commenced on May 1, 2016.

In Functional Area A, changes will specifically be made to the No. 2 Digester System (EUG A2) and No. 3 Digester System (EUG A3). In Functional Area E, changes will specifically be made to the Spent Liquor Concentration equipment (EUG E2a), Causticizing Area (EUG E6), and Lime Kiln (EUG 7a). These changes will constitute a modification of the No. 2 Digester system, No. 3 Digester System and multiple effect evaporator system per 40 CFR Part 60. Subpart BBa. Following the completion of the proposed project, the Mills emissions will remain below the PAL per Condition No. 1(A)(11)(a). The proposed changes do not affect the emissions factors associated with the modified units or other downstream units. The Mill will continue to use the emissions factors and calculation methods approved during the development of the PAL and there will be no changes to testing, monitoring or recordkeeping requirements.

The IP Valliant Paper Mill is a Kraft Process paper mill (SIC 2631, NAIC 32213) in southeast Oklahoma, which is adjacent to a wood chipping facility (Valliant Chips) owned and operated by Valliant Chips, Inc. (a subsidiary of The Price Companies). A determination has been made by the Air Quality Division (AQD) that there was no clear indication that the two operations can operate independently of each other and therefore, cannot be considered separate facilities under 40 CFR Part 70. Future modifications and permits of each facility need to be based on the combined emissions from both operations and need to be considered prior to making a determination for each permitting action. Applicability of each operation to Part 70 requirements or New Source Review (NSR) requirements should also be based on the combined emissions of the operations.

## **SECTION II. PROPOSED MILL MODIFICATIONS**

### Functional Area A – Pulping

Functional Area A contains the Mill's pumping process equipment, which includes, but is not limited to, the No. 2 and No. 3 Digester System.

For the No. 2 Digester System, IP is proposing to upgrade the #2 Steam Vessel, install a new strain gauge for measurement of chip levels and control of chip processing. These proposed changes to the No. 2 Digester System are expected to increase Kraft pulp production by 92 air dried tons per day (ADTPD).

For the No. 3 Digester System, IP is similarly proposing to install a new strain gauge for measurement of chip levels and control of chip processing. The proposed changes to the No. 3 Digester System are expected to increase semi-chem pulp production by 47 ADTPD. Physical changes recently made to the No. 3 Brownstock Washing (BSW) Area (EUG B3) during September 2017 will contribute to the Mill having the ability to increase pulp production by the No. 3 Digester system. However, the changes to the No. 3 BSW included the installation of low flow hoods that result in decreases in both HAP and TRS emissions from that system.

### Functional Area E – Chemical Recovery

Functional Area E includes the Mill's chemical recovery sources, which includes, but is not limited to, the Mill's Spent Liquor Concentration equipment, Causticizing Area, Recovery Furnace (EUG D6), Smelt Dissolving Tank (EUG E4b), and Lime Kiln.

IP is proposing to make changes to the Spent Liquor Concentration area by re-plumbing the third and fourth effects of the multiple effect evaporator system and installing two new concentrators, two new flash tanks, and a sixth evaporator effect. The proposed changes to the Spent Liquor Concentration Equipment will maximize the solids content of the black liquor prior to it being fired in the Recovery Furnace. The Mill currently collects non-condensable gases (NCG) in the existing NCG Low-Volume High-Concentration (LVHC) and High-Volume Low-Concentration (HVLC) Collection System (EUG F4b) and Steam Stripper System (EUG F10). The Recovery Furnace serves as the primary incineration device for the NCG and the secondary and tertiary backup devices are the Lime Kiln and NCG Thermal Oxidizer (EUG F4a), respectively. Exhaust gases from the Spent Liquor Concentration area will continue to be collected and routed to the Mill's existing NCG LVHC Collection System. The existing Steam Stripper System and NCG LVHC Collection System have the capacity to handle the additional gases that will be routed to the primary and secondary control devices.

Proposed changes to the Lime Kiln include upgrade of the existing lime mud feed belt and feed screw design, installation of a new induced draft (ID) fan, and installation of an additional chain within the kiln. Installation of an additional chain will improve overall heat transfer inside the kiln and increase kiln efficiency.

Proposed changes to the Causticizing Area include installation of a larger vacuum pump for initial mud washing and a larger mud filter for filtration of lime mud prior to its introduction to the kiln. The proposed mud washing/filtration system improvements will enhance the washing and dewatering of lime mud prior to its introduction to the Lime Kiln, which is expected to result in a reduction of lime mud sulfide concentration. Reduction of the lime mud sulfide concentration will decrease the overall sulfur load to the kiln and the subsequent Total Reduced Sulfur (TRS) formation within the Lime Kiln. The proposed changes to the Causticizing Area in conjunction with the changes detailed above to the Lime Kiln itself are expected to decrease emissions on a mass rate basis of TRS from the Lime Kiln to the atmosphere.

### **SECTION III. PERMIT HISTORY**

A summary of the permit history of the facility is issued below. The older permits were issued to the previous owner, Weyerhaeuser Corporation.

- 75-022-O, issued May 29, 1975, authorized operation of chip air separation equipment.
- 75-012-O, issued August 20, 1976, authorized operation of lime slaking equipment.
- 86-019-O, issued October 12, 1987, authorized operation of a boiler.
- 91-093-O, issued April 22, 1994, was a permit to operate a processing and handling system

for the preparation of OCC (old corrugated container) rejects to be used as boiler fuel.

- 95-224-C, issued June 22, 1995, granted authority for installation of a diesel engine powered water pump.
- 95-224-O, issued June 19, 1996, was an operating permit for a diesel engine powered water pump.
- 96-188-C, issued August 5, 1996, authorized construction of a wood chip screening and conditioning unit.
- 96-043-C (PSD), issued November 5, 1996, covered issues concerning the Bark Boiler, Package Boiler, pulp mill, No. 1 and No. 3 Paper Machines, and NCG Thermal Oxidizer that had not been reviewed in a PSD permit before construction.
- 96-043-C (M-1), issued January 26, 1998, authorized a minor modification to construct new chip thickness screening and conditioning equipment.
- 96-043-C (M-2) (PSD), issued July 2, 1998, concerned an alternative opacity limit for the Recovery Furnace. The limit was retired by the Air Quality Council, and the underlying 20% limit took its place. This permit partially superseded 96-043-C (PSD).
- 96-043-C (M-3) (PSD), issued June 8, 1999, concerned modifications to the No. 2 and No. 3 Paper Machines and the No. 3 OCC Plant. It also authorized construction of a No. 2 Power Boiler, which was not constructed, and for which the authorization to construct has expired.
- 99-134-C, issued September 20, 1999, authorized construction of an NGC Thermal Oxidizer and Steam Stripper System. This was a pollution control project, and conditions are included in the existing TV operating permit.
- 2002-349 MT, received May 15, 2002, was a case-by-case MACT determination, subsequently superseded by issuance of a NESHAP.
- 97-057-C, issued November 6, 2002, authorized construction of a pipeline for the wastewater treatment system, including provisions for pollution control. Conditions are included in the existing TV operating permit.
- 97-057-C (M-2) PSD, issued August 26, 2003, authorized construction of a wood chipping operation on-site, and established BACT for PM and VOC for the wood chipping operation.
- 97-057-C (M-4) (PSD), issued October 13, 2004, concerned the construction of numerous units, decommissioning of others, as well as various replacements and enhancements of existing equipment. This major project was expected to occur over a long time and has been modified by later developments.
- 96-043-C (M-5) (PSD), issued June 20, 2005, concerned addition of a new burner to the Lime Kiln to allow the burning of petcoke. Conditions are included in the existing TV operating permit.
- 97-057-C (M-8) (PSD), issued July 19, 2007, clarified or modified M-4, especially as to limits for the recovery furnace, and the applicability of NSPS Subpart Db. It described the content of each phase of construction and described how each phase builds on the previous phase(s).
- 97-057-C (M-9) (PSD), issued April 25, 2008, expanded on the possible actions under Phase III of the project, specifically describing two alternative boiler projects. This phase may include a circulating fluidized bed (CFB) boiler as originally proposed in M-4 or may include a bubbling fluidized bed (BFB) boiler in conjunction with modifications to the existing steam generating units. This permit is generally viewed as superseding both M-4

and M-8.

- 97-057-TV, issued October 7, 2008, was the initial TV operating permit for the facility, incorporating the requirements of, and superseding, numerous previous construction and operating permits.
- 97-057-TV (M-10), issued March 25, 2010, establishes that BART limits for the facility will become effective five years after EPA approval of DEQ's BART SIP.
- 97-059-TV (M-7), application received March 30, 2007, requesting a BART waiver for the facility, was subsumed into 97-057-C (M-10).
- 97-057-TV (M-11), issued July 5, 2011, corrected emission factors for several operations and incorporated all changes into the existing TV permit.
- 2013-0465-TVR, issued December 22, 2014, did not itself incorporate any significant changes to the terms and conditions of the operating permit that were requested by the applicant. It did however incorporate changes that had been requested in the following permit modification applications, which were pending with ODEQ at the time the TVR was issued. With issuance of the TVR, these modification permits were considered to be issued as well.
  - Under permit application No. 97-057-TV (M-12), the facility has requested a modification to replace two existing engines with new engines.
  - Under permit application No. 97-057-TV (M-13), the facility has requested an update of the emission factor for the Lime Kiln (EUG E7a).
  - Under permit application No. 2013-0465-TVR (M-1), the facility has requested the addition of CEMs for total reduced sulfur (TRS) for the Lime Kiln (EUG E7a).
  - Under permit application No. 2013-0465-TVR (M-2), the facility has requested a restart of Paper Machine No. 3 and minor modifications at OCC Plants 1, 2, and 3.
  - Under permit application No. 2013-0465-TVR (M-3), the facility has requested an increase in the effluent discharge rate for the wastewater pipeline (EUG F3b).
- 2013-0465-TVR (M-6), issued October 14, 2015, was a Tier I minor modification that authorized installation of a natural gas-fired emergency generator.
- 2013-0465-C (M-5), issued April 29, 2016, was a PALs construction permit.
- 2013-0465-C (M-9), issued June 30, 2016, was an administrative amendments to make corrections to 2013-0465-C (M-5) involving the restoration of H2S limits and associated specific conditions for EUG F3b, which were incorrectly removed during the PAL development process.
- 2013-0465-TVR (M-7), issued July 11, 2016, was an administrative amendment to incorporate the PAL provisions into the Title V operating permit.

#### **SECTION IV. FACILITY DESCRIPTION**

Initial construction of the mill began in 1969 and was completed in 1971. The mill produces paper products through the use of chemical digesters, secondary fiber processing, and paper machines. The primary raw materials used in the production of paper products at the mill are fiber source materials such as, but not limited to, wood chips from both softwood and hardwood species and old corrugated containers (OCC). In addition to the pulping and paper-making process units, other

equipment is involved with recovering the chemicals used to produce virgin pulp. Spent cooking liquor is concentrated and burned (to remove organics and recover heat value) and reacted with lime to regenerate the cooking liquor. The spent lime used for regeneration is recovered, washed, and calcinated for reuse. Steam requirements are supplied by two large boilers (Bark Boiler and Power Boiler), a small package boiler and by a recovery furnace. Steam is also used to drive a turbine electric generator that supplements the mill’s electric energy needs.

**SECTION V. PROCESS DESCRIPTIONS**

Operations at the Valliant Mill have been subdivided into six functional areas. The functional areas are based on the flow of materials within the Valliant Mill and on the various steps in the production process. Emissions units within each functional process area are identified. Any particular emissions unit may include more than one significant emission point.

**Valliant Mill Functional Areas**

|                                   |                      |    |   |
|-----------------------------------|----------------------|----|---|
| Functional Area A – Digester Area |                      |    |   |
| A1                                | No.1 Digester System | A5 | No.2 OCC Plant                          |
| A2                                | No.2 Digester System | A6 | Makedown Pulper                         |
| A3                                | No.3 Digester System | A7 | No.3 OCC Plant                          |
| A4                                | No.1 OCC Plant       | A8 | OCC Lightweight Rejects Handling System |

|  |                               |    |                               |
|--|-------------------------------|----|-------------------------------|
| Functional Area B – Brownstock Washing |                               |    |                               |
| B1                                     | No. 1 Brownstock Washing Area | B3 | No. 3 Brownstock Washing Area |
| B2                                     | No. 2 Brownstock Washing Area |    |                               |

|                                  |                                  |    |                                  |
|----------------------------------|----------------------------------|----|----------------------------------|
| Functional Area C - Paper Making |                                  |    |                                  |
| C1                               | No. 1 Paper Machine (Stock Prep) | C6 | No. 2 Paper Machine (Dry End)    |
| C2                               | No. 1 Paper Machine (Wet End)    | C7 | No. 3 Paper Machine (Stock Prep) |
| C3                               | No. 2 Paper Machine (Wet End)    | C8 | No. 3 Paper Machine (Wet End)    |
| C4                               | No. 2 Paper Machine (Stock Prep) | C9 | No. 3 Paper Machine (Dry End)    |
| C5                               | No. 3 Paper Machine (Dry End)    |    |                                  |

|                                      |              |    |                  |
|--------------------------------------|--------------|----|------------------|
| Functional Area D - Steam Production |              |    |                  |
| D1                                   | Bark Boiler  | D3 | Package Boiler   |
| D2                                   | Power Boiler | D6 | Recovery Furnace |

| Functional Area E - Chemical Recovery |                            |  |     |                                       |
|---------------------------------------|----------------------------|--|-----|---------------------------------------|
| E1                                    | Turpentine Recovery System |  | E6  | Causticizing System                   |
| E2a                                   | Spent Liquor Concentration |  | E7a | Lime Kiln                             |
| E2b                                   | Evaporator Sump            |  | E8  | Tall Oil Plant                        |
| E3d                                   | Spent Liquor Mix Tanks     |  | E9  | Organic Liquid Storage Vessels        |
| E4b                                   | Smelt Dissolving Tank      |  | E10 | Volatile Organic Liquid Storage Tanks |
| E5                                    | Lime Slakers               |  |     |                                       |

| Functional Area F - Miscellaneous Areas |                                 |  |      |  |
|---|---------------------------------|--|------|--|
| F1                                      | Woodyard                        |  | F5   | Solid Waste Disposal Facility Operations |
| F2                                      | Plant Traffic Road Emissions    |  | F7/9 | Wood Chip Screening and Conditioning     |
| F3a                                     | Wastewater Treatment System     |  | F10  | Steam Stripper System                    |
| F3b                                     | Wastewater Pipeline             |  | F11  | Miscellaneous Insignificant Activities   |
| F4a                                     | NGC Thermal Oxidizer            |  | F13  | Petcoke Handling System No. 1            |
| F4b                                     | LVHC/HVLC NCG Collection System |  | F14  | Miscellaneous Engines/ Fire Pumps        |

| Functional Area VC – Valliant Chips* |                                  |
|--------------------------------------|----------------------------------|
| VC1                                  | Debarking Drum                   |
| VC2                                  | Chipper                          |
| VC3                                  | Bark Hog                         |
| VC4                                  | Delivery & Shuttle Truck Traffic |
| VC5                                  | On-Site Vehicles                 |

\*The Valliant Chips facility is under separate ownership and management by Valliant Chips, Inc. Permit terms and conditions necessary for compliance with the PAL have been incorporated into the Title V operating permit for the Valliant Chips facility.

**Functional Area A - Pulping**

**Digester Areas (EUGs A1, A2, A3)**

The Digesters produce pulp by utilizing a chemical pulping process in which fiber sources are digested in a water solution of pulping chemicals. This solution chemically dissolves the lignin that holds the fibers together. Each Digester area operates in a similar manner, as described below. The No. 1 and No. 2 Digesters use a Kraft pulping system, and the No. 3 Digester uses a semi-chemical pulping system.

Fiber source materials are conveyed from “chip silos” to “chip bins”, which are vented to the high volume, low concentration (HVLC) Noncondensable Gas (NCG) Collection System (EUG F4b). From each chip bin, a meter feeds the material into a steaming vessel, which heats the material to processing temperature. The steaming vessels are vented to the Turpentine Recovery System (EUG E1).

From the steaming vessels, the fiber source material is introduced into the Digesters, along with heated cooking liquor. The material is digested as it travels down the Digesters by gravity flow. The No. 1

Digester area includes a pressurized impregnation vessel between the steaming vessel and the Digester. The fiber source material is steeped in cooking liquor in the impregnation vessel before its introduction into the Digester.

Vapors produced by the cooking process are vented to the Turpentine Recovery System (EUG E1). The spent cooking liquor, which contains dissolved lignin and other organic and inorganic materials, is withdrawn from the Digesters. This spent liquor is depressurized in flash tanks and sent to the weak liquor storage tanks. Vapors from the flash tanks are vented to the Turpentine Recovery System (EUG E1) and/or the steaming vessel.

The digested pulp, also known as brownstock, is withdrawn from the bottom of the Digesters. The brownstock passes through defibrators, which mechanically break apart the mostly-digested fibers. The pulp is then sent to a surge tank that is vented to the HVLC NCG Collection System (EUG F4b).

#### **Repulping Operations (OCC Plants) (EUGs A4, A5, A6, A7)**

Repulping operations prepare fiber for the paper machines. Repulping hydromechanically breaks down fiber source materials in water, which allows the fiber stock to be introduced into the paper machine stock preparation equipment. The fiber sources can include, but are not limited to, virgin fiber, as well as preconsumer and postconsumer secondary (recycled) fiber.

The OCC Plants process OCC (old corrugated container) materials, which include, but are not limited to, old corrugated containers (e.g., cardboard boxes), old newspapers, rejected materials from paper machines or box manufacturing facilities, and other types of fiber-containing products. Recent improvements include the OCC1 pulper detrashing loop, OCC2 rejects handling pump and screens replacement, and an OCC3 high density cleaner.

OCC is received at the Valliant Mill by truck and by rail. Once the OCC is repulped, it then goes through a series of steps to remove heavy and light rejects and adequately separate the fibers from each other. Heavy reject materials may be disposed in the mill's Solid Waste Disposal Facility or transferred off-site. Light rejects are pressed to remove water, then may be disposed on site, transferred off-site, or transferred to a receiving bin before being used as a fuel source. The prepared fiber is stored in OCC high density storage chests for use in the paper machines.

The Makedown Pulper performs a function similar to the OCC plants. It uses box plant trim, which is a relatively clean fiber source material, and cull rolls from the Valliant Mill paper machines. Fiber prepared in the Makedown Pulper can be introduced into the stock preparation areas of any of the three paper machines. There are no significant emission points associated with the Makedown Pulper.

#### **OCC Lightweight Rejects Handling System (EUG A8)**

The OCC Lightweight Rejects Baghouse controls particulate emissions from the Bark Surge Bin. Materials are blown from the OCC Plants to this bin prior to being introduced to the Bark Boiler fuel stream.

## **Functional Area B - Brownstock Washing**

### **Brownstock Washing Areas (EUGs B1, B2, B3)**

The Brownstock Washing Areas include brownstock washers and brownstock washer filtrate tanks. Brownstock Washing Areas 1 and 2 also include a screening process.

Pulp from digester surge tanks is screened in brownstock washing areas 1 and 2 to ensure uniform fiber size. The flow-through tanks in the screening system are vented to the atmosphere. Pulp, either from the screening systems or from digester surge tanks, is washed over rotary vacuum drums in the brownstock washers to remove spent cooking chemicals. After being washed, the pulp is transferred to several high density storage silos. The brownstock washers are hooded and are vented from the pulp mill building to the atmosphere.

Filtrate from the brownstock washers is collected into brownstock washer filtrate tanks. From these tanks, filtrate is either reused in the washing process or is returned to the digester areas.

Brownstock Washing Area 3 performs a similar function to that described above for Brownstock Washing Areas 1 and 2. However, Brownstock Washing Area 3 washes pulp from the No. 3 Digester, which uses a semi-chemical pulping system. Therefore, Brownstock Washing Area 3 is not subject to the maximum achievable control technology (MACT) standard for pulp and paper mills (40 CFR Part 63, Subpart S).

## **Functional Area C - Paper Making**

### **Paper Machine Stock Preparation (EUGs C1, C4, C7)**

Stock preparation is a process of blending the fibers (stock) with water and other additives for consistency control and to prepare the stock for introduction onto the paper machines. In general, the stock is diluted, blended, and cleaned as it passes from vessel to vessel through the stock preparation process. Stock from various sources, such as virgin fiber from the digester areas, secondary fiber from the OCC plants, and recycled fiber from the Makedown Pulper, may be blended together in this process. In addition, fiber recycled from the wet end or the dry end (known as broke) may be processed and added to the stock during preparation.

The various chests (vessels) associated with the stock preparation process are vented either directly to the atmosphere or to the interior of the paper machine building.

### **Paper Machine Wet End (EUGs C2, C5, C8)**

The paper machine wet end forms a base sheet by means of the primary headbox that distributes the dilute stock evenly over a continuously moving wire screen. Water is removed from the stock by gravity drainage, by vacuum, and by press rolls. Product with additional layers can be produced by using additional headboxes. Until the fiber sheet has dried sufficiently to support its own weight, it is supported first by the wire screen and then by a moving felt sheet. Water removed from the stock during processing, called white water, is collected and reused in various mill processes. Various sections of the paper machine wet end are vented to the atmosphere or to the interior of the paper machine building.

### **Paper Machine Dry End (EUGs C3, C6, C9)**

The fiber sheet passes from the wet end of the machine to the dry end, where it is heated on drying cylinders. The sheet is then processed on trimming and winding equipment that produces paper rolls of appropriate width and diameter. Product trimmed from rolls and cull resulting from breaks is reprocessed in the dry end pulper. The recovered fiber is returned to the stock preparation area.

Emissions from the dryer section of each machine are vented to the atmosphere. The dry end pulpers and other insignificant emission points vent to the interiors of the paper machine buildings.

### **Functional Area D - Steam Production**

#### **Steam Producing Units (EUGs D1, D2, D3, D6)**

The Valliant Mill currently operates three steam-producing boilers: the Bark Boiler, the Power Boiler, and the Package Boiler. Steam is also produced by the Recovery Furnace (D6 – formerly EUG E3c).

Steam from the boilers and the Recovery Furnace feeds a common steam header. From the header, the steam may be used to generate electricity. Steam extracted from the generator and steam that by-passes the generator is fed into the steam distribution system for use in various processes. Steam from the Package Boiler feeds directly into the steam distribution system.

The Bark Boiler (EUG D1) burns a variety of fuels in varying combinations and amounts. Fuels include but are not limited to wood and bark residues, OCC rejects, wastewater treatment sludge, and natural gas. Oils from mill equipment (including small portions of used antifreeze and miscellaneous non-hazardous used parts washer fluid) may also be added to the Bark Boiler fuel mixture. Historically, the Bark Boiler burned oil as a primary fuel, but this option was physically eliminated. This unit is subject to Boiler MACT and fuel combinations will be adjusted with the regulatory effective date. Particulate emissions from the Bark Boiler are controlled by a wet venturi scrubber. In addition, multiclones are a part of the bark boiler operations. The presence of wood ash and the wet venturi scrubber also results in a reduction in SO<sub>2</sub> emissions. Its emissions are discharged through a dedicated stack

The Power Boiler (EUG D2) can burn natural gas, oil and propane. Oils from mill equipment (including small portions of used antifreeze and miscellaneous non-hazardous used parts washer fluid) may also be added to the Power Boiler fuel mixture. This unit is subject to Boiler MACT, and fuel combinations will be adjusted with the regulatory effective date. Exhaust gases are emitted to the atmosphere through a shared stack with the Tall Oil Scrubber (Main Stack).

The Package Boiler (EUG D3) burns only natural gas. Its emissions are discharged through a dedicated stack. This unit is subject to Boiler MACT.

The Recovery Furnace (EUG D6) is used to recover process chemicals from spent liquor, which can come from the spent liquor concentration area (EUGs E2a and E2b) or may be obtained from off-site. Prior to being burned, the spent liquor may pass through the Spent Liquor Mix Tanks (EUG E3d), where it may be mixed with particulate matter captured in the Recovery Furnace's electrostatic precipitator (ESP). The spent liquor mix tanks emit through the Recovery Furnace.

The smelt dissolving tank (EUG E4b) also emits through the recovery furnace. There is an emergency by-pass stack available for the smelt dissolving tank.

The Recovery Furnace is the primary control device for NCGs and Stripper Off Gases (SOGs). The Lime Kiln still operates as a NCG/SOG combustion source backup and the Thermal Oxidizer is also an emergency backup combustion device (decommissioned from normal operation).

In addition to burning spent liquor and combusting NCGs/SOGs, the Recovery Furnace also uses natural gas and is capable of burning other materials that may contain spent cooking chemicals, such as soap from the evaporators, brine from the tall oil reactor, precipitator salt cake, and turpentine. The natural gas total fuel is under an annual 10% capacity limit. Emissions are discharged through a dedicated stack. Fuel oil could be added to liquor to achieve a 1:1,000 mixture (distillate to black liquor) that is introduced into the furnace through existing liquor nozzles.

### **Functional Area E - Chemical Recovery**

#### **Turpentine Recovery System (EUG E1)**

The Turpentine Recovery System condenses turpentine from vapors collected from equipment in the Digester areas. The turpentine that is recovered is sold as a by-product. The non-condensable fractions of these vapors are combusted in the recovery furnace or the Lime Kiln (back-up). The NCG Thermal Oxidizer is used as an additional combustion backup.

In the Turpentine Recovery System for the No. 1 and 2 Digester areas, vapors are condensed to a water fraction, a turpentine (liquid) fraction, and a vapor fraction. The water fraction is collected in a series of tanks before being sent to the steam stripper or sewer. The turpentine fraction flows through a degasser to a turpentine decanter, which separates the turpentine from the remaining water. The water is drawn off and sent to the steam stripper or the sewer. The turpentine flows to the turpentine receiver and then to a storage tank to await loading into trucks. Low volume, high concentration (LVHC) vapors collected from the system are combusted in the recovery furnace or in the Lime Kiln (back-up). The NCG Thermal Oxidizer is used as an additional combustion backup option.

Turpentine storage and loading facilities, the pump tank that receives liquid from the cyclone separators, and the collection tank are insignificant emission sources that are vented to the atmosphere.

#### **Spent Liquor Concentration (EUG E2a) and Evaporator Sump (EUG E2b)**

Spent pulping liquor collected in the weak liquor storage tanks is concentrated before it is processed in the Recovery Furnace. Transfers of spent liquor to or from off-site locations may be accomplished at any point in these processes.

Liquor is concentrated by sending it to a multiple-effect evaporator system and super concentrator, where non-contact steam is used to evaporate water from the liquor. Spent liquor leaving the evaporators may be sent to on-site storage, transferred off-site, or sent on for further concentration.

During the evaporation process, a fatty substance called soap is removed from the spent liquor by soap skimmers. The soap is sent to the Tall Oil Plant (EUG E8) for conversion into tall oil, which is sold as a product.

#### **Recovery Furnace and Spent Liquor Mix Tanks (EUG E3d)**

The Recovery Furnace (EUG D6) is used to recover process chemicals from the spent liquor concentration area or spent liquor obtained from off-site. Prior to being burned, the spent liquor may pass through the new Spent Liquor Mix Tanks (EUG E3d) where it may be mixed with particulate matter captured in the Recovery Furnace's electrostatic precipitator (ESP). The spent liquor mix tanks emit through the recovery furnace. Natural gas is used as an auxiliary fuel for start-up and to stabilize combustion.

A molten inorganic residue called smelt forms in the Recovery Furnace as a result of the burning of spent liquor. The smelt is drawn off into the new Smelt Dissolving Tank (EUG E4b) and used to initiate the causticizing process that regenerates cooking chemicals. The smelt dissolving tank also emits through the recovery furnace. There is an emergency by-pass stack available.

#### **Smelt Dissolving Tank (EUG E4b)**

Smelt from the Recovery Furnace flows into the Smelt Dissolving Tank, where it is dissolved in water or in weak wash, which is water that has been used in the Causticizing System to wash lime mud. The resulting solution, called green liquor, is sent to the Green Liquor Clarifier (EUG E6) for further processing. After particulate emissions have been reduced with aqueous sprays, the Smelt Dissolving Tank is vented through the Recovery Furnace. Airflow from the new Smelt Dissolving Tank (EUG E4b) is routed through the Recovery Furnace as combustion air make-up. There is also an emergency bypass for the smelt dissolving tank.

#### **Lime Slakers (EUG E5)**

The Lime Slakers mix lime with green liquor to initiate the causticizing process that regenerates cooking liquor. The lime is fed from lime bins that are filled either from the Lime Kiln or by lime transported from off-site. Green liquor enters the Slakers from the green liquor clarifier, from green liquor storage, or from off-site sources. The mixture of green liquor and lime flows from the Slakers through Clarifiers, which remove unreacted lime and other debris, to the Causticizers.

#### **Causticizing Area (EUG E6)**

In the Causticizing area, cooking liquor is regenerated by reacting green liquor from the Smelt Dissolving Tank with calcium oxide (quick lime). The lime is recovered and re-used in this process.

Green liquor from the Smelt Dissolving Tank (or from off-site sources) flows to the Green Liquor Clarifier, where heavy particles, such as undissolved smelt, are allowed to settle out. The settled material, known as dregs, goes to the dregs filter. The filtrate is returned to the Green Liquor Clarifier, and the remaining dregs are sent to the process sewer, disposed, or transferred off-site.

Clarified green liquor can be sent to storage, the Digesters, the Lime Slakers, or off-site destinations. After being mixed with lime in the Slakers, the green liquor goes through a series of

Causticizers (agitated holding tanks) that provide the residence time needed for the lime to react with the green liquor to regenerate the cooking liquor.

The cooking liquor from the Causticizers flows into one of two clarifiers. The clarified cooking liquor (or cooking liquor from off-site sources) is stored, used in the Digesters, or transferred off-site. The material that settles to the bottom of the cooking liquor clarifiers is lime mud (principally calcium carbonate). The lime mud is washed with water in a Lime Mud Washer. The overflow from the Lime Mud Washer goes to weak wash storage for later use in the Smelt Dissolving Tank and other areas. The washed lime mud is sent to storage tanks and from there to a Lime Mud Filter. The filtered lime mud is calcined in the Lime Kiln (EUG E7a), converting it back to calcium oxide. The Lime Kiln product is transported to the lime bins. If the Lime Kiln is not operating, the lime mud is disposed in the on-site Solid Waste Disposal Facility or transferred off-site.

#### **Lime Kiln (EUG E7a)**

Lime Mud from causticizing is calcined in the existing Lime Kiln to regenerate calcium oxide (quick lime). The Lime Kiln is fueled by natural gas and petcoke and is also used as a backup to the Recovery Furnace (or as backup to the secondary backup Thermal Oxidizer) if it is not being used to oxidize the collected NCGs and/or Stripper Off Gases (SOGs).

Particulate emissions from the kiln are controlled by an electrostatic precipitator, which returns collected lime dust to the kiln.

The regenerated quick lime is transferred to the Lime Bins that feed the Slakers (EUG E5). The Lime Bins are vented to the Lime Kiln combustion air makeup.

#### **Tall Oil Plant (EUG E8)**

Tall oil is a heavy organic oil recovered and sold for various commercial uses. It is produced by the Tall Oil Plant from the soap collected during spent liquor evaporation (EUGs E2a and E2b). Tall oil is produced by charging the Tall Oil Reactor with soap, water, and sulfuric acid. The reactor and mixture are then heated to produce a batch of tall oil.

After the reaction, the contents of the tall oil reactor settle into three layers. The tall oil itself rises to the top of the reactor, from where it is withdrawn to wet tall oil storage tanks. The middle layer is a sludge that contains lignin and other organic materials. This sludge is drawn off into a sludge storage tank. A predominantly sodium sulfate brine solution collects at the bottom of the reactor.

The tall oil is transferred from the storage tanks directly to transport vessels or to another storage tank. Tall oil can be loaded into transport vessels from this storage tank. The sludge is transferred back to the tall oil reactor, caustic is added, and the reactor is heated again in a process known as lignin cook. The resulting material is returned to the evaporator area and mixed with spent liquor for chemical recovery.

A packed bed scrubber controls emissions of total reduced sulfur (TRS) from the tall oil reactor, the wet tall oil tanks, and the brine tank. This scrubber is vented to a shared stack with the Power Boiler (existing Main Stack).

### **Storage Vessels (EUGs E9 and E10)**

Various lower vapor pressure organic liquids, such as black liquors, tall oil, soaps, and fuel oil, are stored in tanks and other vessels at the Valliant Mill (EUG E9). Other volatile organic liquids, such as turpentine and gasoline fuel, are stored in smaller tanks at the Valliant Mill (EUG E10).

### **Functional Area F - Miscellaneous Processes**

#### **Woodyard (EUG F1)**

Woodyard operations include the receipt, storage, and handling of fiber source materials and solid fuels.

#### **Fiber Source Materials**

Fiber source materials, such as wood chips, are received by railroad, truck and belt conveyor systems. Railcar rollovers and truck lift dumpers are used to unload the material into receiving pits. The received materials can be stored for later retrieval or conveyed directly to the screening operation.

Material to be stored is stockpiled into storage piles by stackers. Material can be removed from the storage piles by reclaimers. Reclaimed material is transferred to Chip Screening/Conditioning (EUGs F7 and F9) and then to chip silos. Undersized (fine) rejects from the scalping screens are conveyed to the Bark Boiler fuel storage pile feed conveyor. Oversized rejects from the scalping screens are either disposed on site or added to the Bark Boiler fuel storage pile. The fiber source material is transferred as needed from the chip silos to the chip bins in the Digester areas (EUGs A1, A2, and A3).

Conveyors and transfer points in the fiber source material handling system are partially covered and/or enclosed. This serves to reduce the potential for fugitive particulate emissions from material handling operations.

#### **Solid Fuels**

Solid fuels are received by railroad, truck and belt conveyor systems. After receipt, the fuels are conveyed to the fuel storage pile. Oversized materials can be sent offsite or diverted from the fiber source processing/storage area and pass through a hogger for size reduction before being stockpiled. Fuel reclaimed from the storage pile is conveyed directly to the Bark Boiler. Conveyors and transfer points in the fuel handling system are partially covered and/or enclosed. This serves to reduce the potential for fugitive particulate emissions from material handling operations.

#### **Plant Traffic Road Emissions (EUG F2)**

Heavy trucks and other vehicles regularly travel on paved and unpaved roads within the Valliant Mill. These vehicles are expected to cause fugitive dust emissions by the action of their tires on the surface of the roads.

Any airborne dust generated by vehicle traffic is emitted directly to the atmosphere. The roads on which these vehicles travel are in good repair, and paved roads are cleaned periodically to minimize the extent of fugitive dust emissions. Unpaved roads are periodically treated to reduce fugitive dust emissions.

Facility vehicles are typically fueled onsite from a gasoline fuel tank (EUG E10). Vehicle traffic occurs in part because of the receipt of raw materials, the shipping of finished products, and the receipt of materials used in the various processes at the Valliant Mill.

#### **Wastewater Treatment System (EUG F3a)**

The Valliant Mill Wastewater Treatment System consists of the Bark Ash Dewatering System, the Primary Effluent Clarifier, a Sludge Dewatering Operation, Aerated Stabilization Basins, and Emergency Storage Ponds. With the exception of the Sludge Dewatering Operation, the Wastewater Treatment System (WWTS) components are open to the atmosphere. The Sludge Dewatering Operation is housed in a building with openings (e.g., windows) to the atmosphere. Mainly VOC and reduced sulfur compounds contained in mill wastewater are emitted from the system components. A portable Diesel Stormwater Pump (EUG F14 unit 10) for stormwater management is utilized as needed.

The Bark Ash Dewatering System receives liquids from the bark ash sand tank. Solids that settle in the Dewatering Ponds are disposed on site. The liquid overflow from the Dewatering Ponds is sent to the Runoff Pond. From the Runoff Pond, water overflows to an Aerated Stabilization Basin, while some is recirculated to the bark ash sand tank. The No. 1 Aerated Stabilization Basin can be bypassed, either to another basin or to the Oklahoma Pollutant Discharge Elimination System (OPDES)-permitted outfall.

Other mill wastewater streams are conveyed to the wastewater treatment area by the process sewer system. These streams pass through a bar screen to the Primary Effluent Clarifier, or bypass the clarifier and mix directly with the overflow from the Runoff Pond. Solids from the primary clarifier go to the Sludge Dewatering Operation. Solids from this operation will either be used as fuel in the Bark Boiler or disposed on site. The liquid from sludge dewatering is returned to the Primary Effluent Clarifier. Liquid from the clarifier combines with water from the Runoff Pond. Microbial nutrients may be added to the clarifier effluent to aid biodegradation of organic materials in the liquid. If necessary, clarifier effluent and runoff pond effluent can be sent to emergency holding ponds. Chemicals may be used to control WWTS H<sub>2</sub>S or foaming.

From the No. 1 Aerated Stabilization Basin, wastewater is either discharged or enters the No. 2 Aerated Stabilization Basin for final settling, biodegradation, and clarifying. The effluent from the No. 2 Aerated Stabilization Basin is discharged via the OPDES-permitted outfall. The Aerated Stabilization Basins also receive storm water runoff from various points within the Valliant Mill, including the Solid Waste Disposal Facility Collection Pond and the Chip Pile Collection Pond.

#### **Wastewater Pipeline (EUG F3b)**

A wastewater pipeline transfers wastewater effluent from the Valliant Mill to the Red River. Under normal operating conditions, effluent from the Valliant Mill treatment ponds flows to a 48-inch diameter pipeline. The effluent then typically flows by gravity approximately six miles to a collection box. The collection box is mostly closed to the atmosphere and is the emission point for any hydrogen sulfide (H<sub>2</sub>S) formed in the pipeline. From the collection box, the effluent flows to a 200-foot diffuser at the bottom of the Red River. During periods of heavy rainfall, pumps can be operated to accommodate the increased flow rates.

#### **NCG Collection and Thermal Oxidation (EUG F4)**

Many sources of NCGs are vented to one of two collection systems for burning. The LVHC streams are relatively low-flow-rate, high-concentration sources of NCGs, whereas the HVLC streams produce more total gas flow but much lower concentrations of NCGs. The following sources of concentrated NCGs are vented to the LVHC system.

- Turpentine recovery condensers
- Turpentine decanters
- Turpentine recovery underflow tanks
- Turpentine degassers
- Turpentine receiver tank
- No. 3 Digester Area flash steam condensers
- Evaporator hotwells
- Steam stripper system

The steam stripper feed tank (EUG F10) collects and routes condensates from various processes at the facility to the LVHC system. The stripper off-gas (SOG) from the steam stripper is routed directly to the combustion unit via an individual line.

The chip bins and digester surge tanks are vented to the HVLC system (EUG F4b). NCGs from the No. 1 Digester chip bin are routed directly to the combustion unit through an individual line.

The primary control device for the collected NCGs is the Recovery Furnace. The backup device is the Lime Kiln (EUG E7a) and if unavailable, the NCG thermal oxidizer with a scrubber. The Thermal Oxidizer has been decommissioned from normal operation. The high-concentration LVHC and SOG streams are introduced into the recovery furnace combustion zone. The relatively dilute HVLC stream is used as combustion air.

During certain start-up operations and upset conditions, the NCG streams may be released to the atmosphere for a relatively short time for safety reasons. These are recognized technological limitations for purposes of excess emissions reporting (OAC 252:100-9-1).

#### **Solid Waste Disposal Facility Operations (EUG F5)**

A variety of solid wastes are generated as part of the manufacturing processes at the Valliant Mill. Wastes generally are transported via trucks from the Valliant Mill to the on-site Solid Waste Disposal facility (landfill) located south of the manufacturing complex. The trucks regularly travel back and forth between the Solid Waste Disposal Facility and manufacturing areas. The majority of the roads in the manufacturing complex are paved, while those in the Solid Waste Disposal Facility area are unpaved.

Vehicle traffic related to Solid Waste Disposal Facility operations may cause fugitive dust emissions by the action of tires on the surface of the roads. In addition, the unloading of waste materials from trucks into the landfill and other associated waste handling operations may generate small amounts of fugitive dust emissions. To limit fugitive emissions, paved roads are periodically cleaned and unpaved roads are periodically treated.

**Wood Chip Screening & Conditioning (EUGs F7 and F9)**

The Valliant Mill operates wood chip screening and conditioning equipment for processing wood chips prior to being pulped. This area currently consists of bar screens, chip conditioners, and two air density separators.

**Steam Stripper System (EUG F10)**

The steam stripper feed tank (EUG F10) collects and routes condensates from various processes at the facility to the LVHC system. The stripper off-gas (SOG) from the steam stripper is routed directly to the combustion unit via an individual line. In the event that the Recovery Furnace becomes unstable or must be taken off-line, the Lime Kiln (EUG E7a) is used to thermally oxidize all the SOGs or the secondary backup is the Thermal Oxidizer (EUG F4).

**Miscellaneous Insignificant Activities (EUG F11)**

The Valliant Mill has several activities that are insignificant in nature per OAC 252:100-8 and Appendix I such as storage tanks, space heaters, emergency flares, fueling equipment, drum reclamation operation, containers associated with solid waste accumulation areas, etc.

**Petcoke Handling System (EUG F13)**

Petcoke is delivered to the mill via trucks. The petcoke is transferred from the truck trailer to a storage silo using pneumatic conveyance. The silo is equipped with a bin vent that allows for air displacement when the silo is being filled with petcoke. The bin vent is equipped with a filter to aid in product recovery. From the storage silo, the petcoke is pneumatically conveyed to the kiln burner.

**Miscellaneous Engines/Fire Pumps (EUG F14)**

The Valliant Mill operates a number of emergency generators and engines to provide power during periods of power interruption. In addition, the Valliant Mill also operates a number of pumps throughout the facility for fire suppression and site drainage purposes. These units are subject to 40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines.

**SECTION V. EQUIPMENT**

The numbering of emission points is repeated here from the permit application, e.g. “E-A4,C.” The applicant has requested that heat input capacity for several units be kept confidential. The information in the column named ‘Construction Date’ reflects the date the unit was constructed or changes that resulted in permitting activities.

**EUG A1 – No. 1 Digester System**

| <b>Emission Point</b>  | <b>EU Name/Model</b>                            | <b>Construction Date</b> |
|--|---|--------------------------|
| D6 (Recovery Furnace) or E7a (Lime Kiln) or F4 (Backup NCG Thermal Oxidizer) | #1 Pre-Steamer Chip Bin                         | Pre-1972/2005            |
|  | #1 Steaming Vessel                              |                          |
|  | #1 Digester                                     |                          |
|  | Impregnation Vessel (vented to #1 digester sys) |                          |
|  | #1 Surge Tank                                   |                          |
|  | 1A First Stage Flash Tank                       |                          |
|  | 1B First Stage Flash Tank                       |                          |
|  | Second Stage Flash Tank                         |                          |
| Secondary Flash Tank   |   |                          |

**EUG A2 – No. 2 Digester System**

| <b>Emission Point</b>  | <b>EU Name/Model</b>        | <b>Construction Date</b>         |
|--|-----------------------------|----------------------------------|
| D6 (Recovery Furnace) or E7a (Lime Kiln) or F4 (Backup NCG Thermal Oxidizer) | #2 Chip Bin                 | Pre-1972/2005 (Modified in 2018) |
|  | #2 Steaming Vessel          |                                  |
|  | #2 Digester                 |                                  |
|  | #2 Surge Tank               |                                  |
|  | Primary Flash Tank          |                                  |
|  | Parallel Primary Flash Tank |                                  |
|  | Secondary Flash Tank        |                                  |

**EUG A3 – No. 3 Digester System**

| <b>Emission Point</b>  | <b>EU Name/Model</b> | <b>Construction Date</b>         |
|--|----------------------|----------------------------------|
| D6 (Recovery Furnace) or E7a (Lime Kiln) or F4 (Backup NCG Thermal Oxidizer) | #3 Chip Bin          | Pre-1972/2005 (Modified in 2018) |
|  | #3 Steaming Vessel   |                                  |
|  | #3 Digester          |                                  |
|  | #3 Surge Tank        |                                  |
|  | Primary Flash Tank   |                                  |
|  | Secondary Flash Tank |                                  |

**EUG A4 – 1 OCC Plant**

| <b>Emission Point</b> | <b>EU Name/Model</b> | <b>Construction Date</b> |
|-----------------------|----------------------|--------------------------|
| A4                    | No. 1 OCC Plant      | 1981/ 2005               |

The OCC Plants are defined by the Pulp & Paper Industry MACT as “secondary fiber operations,” subject to the MACT only if bleaching were to occur. No bleaching is conducted at this mill.

**EUG A5 – No. 2 OCC Plant**

| <b>Emission Point</b> | <b>EU Name/Model</b> | <b>Construction Date</b> |
|-----------------------|----------------------|--------------------------|
| A5                    | No. 2 OCC Plant      | 1990/2005                |

**EUG A6 – Makedown Pulper**

| <b>Emission Point</b> | <b>EU Name/Model</b> | <b>Construction Date</b> |
|-----------------------|----------------------|--------------------------|
| A6                    | Makedown Pulper      | Pre-1972/2005            |

**EUG A7 – No. 3 OCC Plant**

| <b>Emission Point</b> | <b>EU Name/Model</b> | <b>Construction Date</b> |
|-----------------------|----------------------|--------------------------|
| A7                    | No. 3 OCC Plant      | 2000/2005                |

**EUG A8 – OCC Lightweight Rejects Handling System**

| <b>Emission Point</b>        | <b>EU Name/Model</b>                    | <b>Construction Date</b> |
|------------------------------|---|--------------------------|
| A8 & A8b<br>(baghouse stack) | OCC Lightweight Rejects Handling System | 1990/2001/2005           |
|                              | OCC Lightweight Rejects Receiving Bin   |                          |

**EUG B1 – No. 1 Brownstock Washing Area**

| <b>Emission Point</b> | <b>EU Name/Model</b>          | <b>Construction Date</b> |
|-----------------------|-------------------------------|--------------------------|
| B1                    | No. 1 Brownstock Washing Area | Pre-1972                 |
| E-B1, B               | Brownstock Washer 1A          |                          |
| E-B1, C               | Brownstock Washer 1B          |                          |

**EUG B2 – No. 2 Brownstock Washing Area**

| <b>Emission Point</b> | <b>EU Name/Model</b>                    | <b>Construction Date</b> |
|-----------------------|---|--------------------------|
| B2                    | No. 2 Brownstock Washing Area           | Pre-1972/1981            |
| E-B2, A               | 1 <sup>st</sup> Stage Brownstock Washer |                          |
| E-B2, B               | 2nd Stage Brownstock Washer             |                          |

**EUG B3 – No. 3 Brownstock Washing Area**

| <b>Emission Point</b> | <b>EU Name/Model</b>          | <b>Construction Date</b> |
|-----------------------|-------------------------------|--------------------------|
| B3                    | No. 3 Brownstock Washing Area | Pre-1972                 |
| E-B3, A               | Brownstock Washer- A Line     |                          |
| E-B3, B               | Brownstock Washer- A Line     |                          |
| E-B3, C               | Brownstock Washer- B Line     |                          |
| E-B3, D               | Brownstock Washer- B Line     |                          |

No. 3 brownstock washing area is a “semi-chemical” operation as defined in 40 CFR 63.441 to be a HVLC (high volume low concentration) operation. The MACT for the Pulp and Paper Industry, 40 CFR 63.443(b), specifies standards only for the LVHC (low volume high concentration). This unit is therefore not subject to this MACT.

**EUG C1 – No. 1 Paper Machine (Stock Preparation)**

| <b>Emission Point</b> | <b>EU Name/Model</b>                    | <b>Construction Date</b>    |
|-----------------------|---|-----------------------------|
| C1                    | No. 1 Paper Machine (stock preparation) | Pre-1972/1990/<br>1996/2005 |

**EUG C2 – No. 1 Paper Machine (Wet End)**

**EUG C3 – No. 1 Paper Machine (Dry End)**

| <b>Emission Point</b> | <b>EU Name/Model</b>       | <b>Construction Date</b>    |
|-----------------------|----------------------------|-----------------------------|
| C2,A                  | Fourdrinier                | Pre-1972/1990/<br>1996/2005 |
| C2,B                  | Vacuum Pumps/ Vacuum Flume |                             |
| C2,D                  | Press Section              |                             |
| C3,A                  | Dryer Section              |                             |

The “Fourdrinier” operation refers to a rotating cylindrical wire mesh screen used for draining water from pulp.

**EUG C4 – No. 2 Paper Machine (Stock Preparation)**

| <b>Emission Point</b> | <b>EU Name/Model</b>                    | <b>Construction Date</b> |
|-----------------------|---|--------------------------|
| C4                    | No. 2 Paper Machine (stock preparation) | Pre-1972 / 2000<br>/2005 |

**EUG C5 – No. 2 Paper Machine (Wet End)**

**EUG C6 – No. 2 Paper Machine (Dry End)**

| <b>Emission Point</b> | <b>EU Name/Model</b>       | <b>Construction Date</b> |
|-----------------------|----------------------------|--------------------------|
| C5,A                  | Fourdrinier                | Pre-1972 / 2000<br>/2005 |
| C5,B                  | Press Section              |                          |
| C5,D                  | Vacuum Pumps/ Vacuum Flume |                          |
| C6,A                  | Dryer Section              |                          |

**EUG C7 – No. 3 Paper Machine (Stock Preparation)**

| <b>Emission Point</b> | <b>EU Name/Model</b>                    | <b>Construction Date</b> |
|-----------------------|---|--------------------------|
| C7                    | No. 3 Paper Machine (stock preparation) | 1981 / 2002 /2005        |

**EUG C8 – No. 3 Paper Machine (Wet End)**

**EUG C9 – No. 3 Paper Machine (Dry End)**

| Emission Point | EU Name/Model              | Construction Date  |
|----------------|----------------------------|--------------------|
| C8,A           | Fourdrinier                | 1981 / 2002 / 2005 |
| C8,B           | Press Section              |                    |
| C8,D           | Vacuum Pumps/ Vacuum Flume |                    |
| C9,A           | Dryer Section              |                    |

**EUG D1 – Bark Boiler (Subject to BART)**

| Emission Point    | EU Name/Model | MMBTUH       | Construction Date |
|-------------------|---------------|--------------|-------------------|
| Bark Boiler Stack | Bark Boiler   | Confidential | Pre-1972/1983     |

**EUG D2 – Power Boiler (Subject to BART)**

| Emission Point | EU Name/Model | MMBTUH       | Construction Date |
|----------------|---------------|--------------|-------------------|
| Main Stack     | Power Boiler  | Confidential | Pre-1972          |

**EUG D3 – Package Boiler (Subject to BART)**

| Emission Point | EU Name/Model              | MMBTUH       | Construction Date |
|----------------|----------------------------|--------------|-------------------|
| D3             | Package (gas-fired) Boiler | Confidential | 1985              |

This package boiler was manufactured in 1969 but was not installed at the mill until 1985.

**EUG D6 – Recovery Furnace (“No. 2”) Formerly E3c**

| Emission Point              | EU Name/Model    | Construction Date |
|-----------------------------|------------------|-------------------|
| D6 (Recovery Furnace Stack) | Recovery Furnace | 2006              |

**EUG E1 – Turpentine Recovery System**

| Emission Point   | EU Name/Model                          | Construction Date |
|--|--|-------------------|
| D6 (Recovery Furnace) or E7a (Lime Kiln) or F4 (Backup NCG Thermal Oxidizer) | 2-Stage Condenser (No. 1 Fiber Line)   | Pre-1972          |
|  | Degasser No. 1                         |                   |
|  | Turpentine Decanter No. 1              |                   |
|  | Underflow Tank No. 1                   |                   |
|  | Secondary Condenser (No. 2 Fiber Line) |                   |
|  | Degasser No. 2                         |                   |
|  | Turpentine Decanter No. 2              |                   |
|  | Underflow Tank No. 2                   |                   |
|  | Turpentine Receiving Tank              |                   |
| Flash Steam Condenser (No. 3 Fiber Line)                                     |  |                   |

**EUG E2a – Spent Liquor Concentration**

| <b>Emission Point</b>  | <b>EU Name/Model</b>      | <b>Construction Date</b>              |
|--|---------------------------|---------------------------------------|
| D6 (Recovery Furnace) or E7a (Lime Kiln) or F4 (Backup NCG Thermal Oxidizer) | No. 1 Evaporator Hotwell  | Pre-1972/1981/2006 (Modified in 2018) |
|  | No. 2 Evaporator Hotwell  |                                       |
|  | Crystalizer               |                                       |
|  | Super Concentrator System |                                       |

Evaporators are defined by 40 CFR Part 63, Subpart S to be an “LVHC” system.

**EUG E2b – Evaporator Sump**

| <b>Emission Point</b> | <b>EU Name/Model</b> | <b>Construction Date</b> |
|-----------------------|----------------------|--------------------------|
| E2b,A                 | Evaporator Sump      | Pre-1972                 |

The evaporator sump is part of the wastewater collection system. As such, it does not meet the definitions in the Pulp & Paper MACT for either “evaporator system” or “process wastewater treatment system.”

**EUG E3c – see EUG D6**

**EUG E3d – New Spent Liquor Mix Tanks**

| <b>Emission Point</b>       | <b>EU Name/Model</b>                        | <b>Construction Date</b> |
|-----------------------------|---|--------------------------|
| D6 (Recovery Furnace Stack) | Spent Liquor Day Tank/Spent Liquor Mix Tank | 2006                     |

**EUG E4b – Smelt Dissolving Tank**

| <b>Emission Point</b>   | <b>EU Name/Model</b>  | <b>Construction Date</b> |
|---|-----------------------|--------------------------|
| D6 (Recovery Furnace stack) or E4b (Smelt Dissolving Tank Emergency Vent) | Smelt Dissolving Tank | 2006                     |

**EUG E5 – Lime Slakers**

| <b>Emission Point</b>                | <b>EU Name/Model</b> | <b>Construction Date</b> |
|--------------------------------------|----------------------|--------------------------|
| E-E5, A (Lime Slaker Scrubber Stack) | No. 1 Lime Slaker    | Pre-1972/1998            |
| E-E5, B (Lime Slaker Scrubber Stack) | No. 2 Lime Slaker    |                          |

**EUG E6 – Causticizing System**

| <b>Emission Point</b> | <b>EU Name/Model</b> | <b>Construction Date</b>            |
|-----------------------|----------------------|-------------------------------------|
| E6 (2 Stacks)         | No. 1a Causticizer   | Pre-1972/2001<br>(Modified in 2018) |
|                       | No. 2 Causticizer    |                                     |
|                       | No. 1b Causticizer   |                                     |
|                       | No. 3 Causticizer    |                                     |

**EUG E7a – Lime Kiln (Subject to BART)**

| <b>Emission Point</b> | <b>EU Name/Model</b> | <b>Construction Date</b>                          |
|-----------------------|----------------------|---|
| E7a (Lime Kiln) Stack | Lime Kiln No. 1      | Pre-1972/1992/2003<br>/2005<br>(Modified in 2018) |
|                       | No. 1 Lime Bin       |   |
|                       | No. 2 Lime Bin       |   |
|                       | No. 3 Lime Bin       |   |

The Lime Kiln is subject to 40 CFR Part 63, Subpart S as a back-up air pollution control device. Subpart MM was promulgated on January 12, 2001, to regulate lime kilns directly, and the compliance date was March 13, 2004.

The Lime Kiln will be modified in 2018, however no increase in filterable PM or TRS emissions is anticipated by the proposed project. Therefore, 40 CFR Part 60, Subpart BBa is not triggered by the proposed project.

**EUG E8 – Tall Oil Plant**

| <b>Emission Point</b> | <b>EU Name/Model</b> | <b>Capacity (Gallons)</b> | <b>Construction Date</b> |
|-----------------------|----------------------|---------------------------|--------------------------|
| Main Stack            | #1 Wet Tall Oil Tank | 20,000                    | 1970                     |
|                       | #2Wet Tall Oil Tank  | 20,000                    | 1970                     |
|                       | Tall Oil Tank        | 153,000                   | 1970                     |

A scrubber was added to this unit in 1989. That addition reduced VOC emissions; therefore it was not defined as a “modification” requiring permitting. This EUG is a HVLC system, for which no standards are specified for existing equipment under the Pulp & Paper Industry MACT. Other tanks in the tall oil plant are included on the insignificant list.

**EUG F1 – Wood yard**

| <b>Emission Point</b>   | <b>EU Name/Model</b> | <b>Construction Date</b> |
|-------------------------|----------------------|--------------------------|
| F1 (fugitive emissions) | Wood yard            | Pre-1972                 |

**EUG F2 – Plant Traffic Road Emissions**

| <b>Emission Point</b>   | <b>EU Name/Model</b>   | <b>Construction Date</b> |
|-------------------------|------------------------|--------------------------|
| F2 (fugitive emissions) | Plant Traffic on Roads | Pre-1972/2003            |

**EUG F3a – Wastewater Treatment System**

| <b>Emission Point</b>      | <b>EU Name/Model*</b>                         | <b>Construction Date</b> |
|----------------------------|---|--------------------------|
| 3a<br>(fugitive emissions) | Solid Waste Disposal Facility Collection Pond | 1991                     |
|                            | Chip Pile Runoff Pond                         | 1991                     |
|                            | Process Sewer                                 | Pre-1972                 |
|                            | Primary Effluent Clarifier                    | Pre-1972                 |
|                            | No. 1 Aeration Lagoon                         | Pre-1972                 |
|                            | No. 2 Aeration Lagoon                         | Pre-1972                 |
|                            | WWTS Emergency Storage Ponds                  | 1983                     |
| F3,H                       | Sludge Press                                  | 1991                     |
| F3,I                       | Sludge Press                                  | 1991                     |

\* Terminology matches OPDES permit.

**EUG F3b – Wastewater Pipeline**

| <b>Emission Point</b> | <b>EU Name/Model</b> | <b>Construction Date</b> |
|-----------------------|----------------------|--------------------------|
| F3b                   | Waste Water Pipeline | 2003                     |

**EUG F4a – NCG Thermal Oxidizer**

**EUG F4b – LVHC/HVLC NCG Collection System**

| <b>Emission Point</b>  | <b>EU Name/Model</b>   | <b>Construction Date</b> |
|--|--|--------------------------|
| D6 (Recovery Furnace) or E7a (Lime Kiln) or F4 (Backup NCG Thermal Oxidizer) | Thermal Oxidation System<br>LVHC Collection System<br>HVLC Collection System | 1989/<br>2000            |
|  | No. 1 Digester System  |                          |
|  | No. 2 Digester System  |                          |
|  | No. 3 Digester System  |                          |
|  | Turpentine Recovery System   |                          |
|  | Spent Liquor Concentration   |                          |
|  | Steam Stripper System  |                          |

The thermal oxidizer has been decommissioned from normal operation, but is available as a backup control device.

**EUG F5 – Solid Waste Disposal Facility Operations**

| <b>Emission Point</b>   | <b>EU Name/Model</b>          | <b>Construction Date</b> |
|-------------------------|-------------------------------|--------------------------|
| F5 (fugitive emissions) | Solid Waste Disposal Facility | Pre-1984                 |

EUG F6 - has been replaced with a new engine that is listed in EUG F14.

**EUG F7 – Wood Chip Screening and Conditioning Unit – No. 3 Line**

| <b>Emission Point</b> | <b>EU Name/Model</b>                   | <b>Construction Date</b> |
|-----------------------|--|--------------------------|
| F7                    | Chip Bar Screen (Screening & Dropping) | 1996                     |
| ADS-1                 | Air Density Separator                  |                          |
| F7                    | Chip Conditioner                       |                          |

**EUG F9 – Wood Chip Screening and Conditioning Unit – No. 1 Line**

| <b>Emission Point</b> | <b>EU Name/Model</b>                   | <b>Construction Date</b> |
|-----------------------|--|--------------------------|
| F9                    | Chip Bar Screen (Screening & Dropping) | 1998                     |
| ADS-2                 | Air Density Separator                  |                          |
| F9                    | Chip Conditioner                       |                          |

**EUG F10 – Steam Stripper System**

| <b>Emission Point</b>     | <b>EU Name/Model</b>                                | <b>Construction Date</b> |
|---------------------------|---|--------------------------|
| F4 (NCG Thermal Oxidizer) | Steam Stripper                                      | 2000                     |
|                           | Foul Condensate Storage (Steam Stripper Feed ) Tank |                          |

**EUG F14 – Miscellaneous Engines/Fire Pumps**

| <b>Emission Point</b> | <b>EU Name/Model</b>  | <b>Construction Date</b> |
|-----------------------|---|--------------------------|
| F14-1                 | Perkins YB504796 Emergency Turbine Generator                | 2000                     |
| F14-2                 | Caterpillar 3306 DI Emergency Generator at Recovery Furnace | 2006                     |
| F14-3                 | Kubota Emergency Generator at Pipeline                      | 2003                     |
| F14-4                 | Cummings QST30-G1 Emergency Generator at Receiving Basin    | 2003                     |
| F14-5                 | Cummings 6081AF0001 #1 Emergency Fire Pump                  | 1971                     |
| F14-6                 | John Deere 4000100CD #2 Emergency Fire Pump                 | 1995                     |
| F14-7                 | Generac 00058841 West Gate Emergency Generator              | 2011                     |
| F14-8                 | Deutz 353 Lime Kiln Auxiliary Engine "Tractor"              | 1971                     |
| F14-9                 | Deutz D914L06 New Stormwater Pump                           | 2011                     |
| F14-10                | Deutz D914L06 New Stormwater Pump Woodyard                  | 2011                     |
| F14-11                | Cummins Power House Air Compressor                          | 2000                     |

|        |  |        |
|--------|--|--------|
| F14-12 | Natural gas-fired 400-kW [363-hp] Generac EGen,<br>Security Building emergency generator | F14-12 |
|--------|--|--------|

## SECTION VI. INSIGNIFICANT ACTIVITIES

The insignificant activities identified and justified in the application and listed in OAC 252:100-8, Appendix I, are listed below. Recordkeeping for activities indicated with an asterisk, “\*”, is listed in the Specific Conditions.

### EUG E9 – Organic Liquid Storage Vessels

| Emission Point | EU Name/Model  | Capacity (Gallons) | Construction Date |
|----------------|--|--------------------|-------------------|
| 164100010      | No. 1 Weak Black Liquor Tank                               | 793,090            | 1995              |
| 164100110      | No. 2 Weak Black Liquor Tank                               | 793,090            | 1995              |
| 164100210      | Boilout Tank   | 426,263            | 1991              |
| 164101310      | 51% Black Liquor Tank                                      | 793,090            | 1994/2006         |
| 164101710      | No. 2 Fuel Oil Storage Tank                                | 1,523,381          | 1990              |
| 164101810      | “Neutral-Sulfite Semi-Chemical (NSSC)”<br>Weak Liquor Tank | 842,428            | 1990              |
| 164102511      | 73% Black Liquor Storage Tank                              | 603,400            | 1995/2006         |
| E-E2,L         | “Super Bowl” Temporary Storage Area                        | 10,000,000         | 1990              |
| 164110110      | Foul Condensate Storage (Steam Stripper<br>Feed) Tank      | 350,000            | 2000              |
| 174102010      | No. 2 Green Liquor Storage Tank                            | >20,000            | 1997              |
| 08301          | 80% Liquor Storage Tank                                    | ~125,000           | 2006              |

Due to the vapor pressure of the liquids per 60.110(b), Subpart Kb does not apply. By the definitions in Pulp & Paper Industry MACT (Subpart S), the Valliant mill is considered an “existing” source. Therefore the black liquor storage tanks in this EUG are not regulated by Subpart S.

### EUG E10 - Small Volatile Organic Liquids Storage Tanks

| Emission Point | EU Name/Model           | Capacity (Gallons) | Construction Date |
|----------------|-------------------------|--------------------|-------------------|
| GAS-01         | Gasoline Fuel Tank      | 1,950              | 1987              |
| 034120510      | Turpentine Storage Tank | 28,000             | 1971              |

### EUG F13 – Petcoke Handling System No. 1

| Emission Point | EU Name/Model                 | Construction Date |
|----------------|-------------------------------|-------------------|
| F13            | Petcoke Handling System No. 1 | 2005              |

Emissions associated with the Petcoke Handling system are insignificant in nature.

Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTUH heat input (commercial natural gas). This category includes the administration building boiler with 2.5 MMBTUH heat input and a small boiler in the personnel building.

\* Emissions from fuel storage/dispensing equipment operated solely for facility owned vehicles if fuel throughput is not more than 2,175 gallons/day, averaged over a 30-day period. The facility includes a vehicle gasoline fueling tank (GAS-01). The mill also has several diesel tanks with a vapor pressure less than 1.0 psia and less than 10,000 gallons.

Gasoline and aircraft fuel handling facilities, equipment, and storage tanks except those subject to New Source Performance Standards and standards in OAC 252:100-37-15, 39-30, 39-41, and 39-48. The facility includes a diesel fuel dispensing operation.

\* Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature. The facility includes a 28,000-gallon turpentine storage tank (EUG 10).

Site restoration and/or bioremediation activities of <5 years expected duration. None listed but may be conducted in the future.

Hydrocarbon-contaminated soil aeration pads utilized for soils excavated at the facility only. None listed but may be conducted in the future.

\*Non-commercial water washing operations and drum crushing operations (less than 2,250 barrels/year) of empty barrels less than or equal to 55 gallons with less than three percent by volume of residual material. The facility includes a drum reclamation operation. The facility also occasionally disposes of empty barrels on-site or recycles them for scrap metal.

Hazardous waste and hazardous materials drum staging areas. The facility includes a waste accumulation area.

Sanitary sewage collection and treatment facilities other than incinerators and Publicly Owned Treatment Works (POTW); Stacks or vents for sanitary sewer plumbing traps are also included (i.e., lift station).

Exhaust systems for chemical, paint, and/or solvent storage rooms or cabinets, including hazardous waste satellite (accumulation) areas. The facility includes additional chemical storage for maintenance purposes.

Hand wiping and spraying of solvents from containers with less than 1 liter capacity used for spot cleaning and/or degreasing in ozone attainment areas. These operations are conducted as part of routine maintenance.

\* Activities having the potential to emit no more than 5 TPY (actual) of any criteria pollutant. The insignificant activities included in this category are denoted as such in the insignificant activities list maintained and updated on site.

## SECTION VII. CURRENT FACILITY POTENTIAL TO EMIT AND EMISSIONS ESTIMATION METHODOLOGY

Historically, the IP Valliant Mill has examined aspects of all major production areas at the plant to determine the maximum material process rates in order to calculate emission rates. Two distinct process rates for each production area or emissions unit were determined:

- Maximum Short-Term Process Rate
- Maximum Sustainable Process Rate

The maximum short-term process rate was the maximum production rate achievable in one hour. The maximum sustainable process rate was the annual average of the estimated production rate at which a source can operate within its physical and operational design. In general, short-term (less than or equal to daily averaging periods) emissions were based on the maximum short-term process rates and long-term (greater than daily) average emissions were based on the maximum sustainable process rates.

The Valliant Mill examined various sources to determine appropriate emission factors, including stack tests, mass balances, U.S. EPA AP-42, NCASI (National Council for Air and Stream Improvement) technical bulletins, vendor data, and regulatory limits. This process continues with the PAL construction permit application submittal.

In all cases, engineering judgment is applied to determine the most suitable emission factor for a particular source.

There are 10 primary discharge points for air emissions summarized as follows.

### SIGNIFICANT DISCHARGE POINTS

| Emissions Unit ID | Discharge Point                                       | Height Feet | Diameter Inches | Flow Rate ACFM | Temperature °F |
|-------------------|---|-------------|-----------------|----------------|----------------|
| D2/E8             | Main Stack (serves Power Boiler, and Tall Oil System) | 296         | 174             | 879,812        | 439            |
| D6                | Recovery Furnace <sup>1</sup>                         | 296         | 149.44          | --             | --             |
| E7a               | Lime Kiln   | 148         | 70              | 71,677         | 469            |
| D1                | Bark Boiler   | 246         | 132             | 242,905        | 133            |
| E5A               | Lime Slaker No. 1                                     | 50          | 30              | 9,876          | 196            |
| E5B               | Lime Slaker No. 2                                     | 50          | 30              | 9,876          | 196            |
| B1/B2/B3          | Brownstock Washer <sup>2</sup>                        | 83          | 28              | 12,988         | 110            |
| D3                | Package Boiler  | 69          | 60              | 96,368         | 677            |
| F4a               | NCG Thermal Oxidizer                                  | 119         | 28              | 25,092         | 670            |
| A8 and A8b        | OCC Rejects Baghouse                                  | 135         | 39              | 10,200         | 70             |

1 - Emissions from the Smelt Dissolving Tank and the Spent Liquor mix tanks are routed through the recovery furnace. Flow rate and Temperature will be provided to DEQ with stack test results.

2 - All emissions from the Brownstock Washing Area are assumed to emit from one set of washers, since they operate mutually exclusively.

VOC emission limitations were expressed as carbon in the initial Title V permit application as well as in previous permits for this facility because; “as-carbon” was used in the mid-1980s, since

Method 25A actually measured a signal given off by carbon reacting with oxygen in the instrument. If the organic molecules had single bonds, double bonds, or even triple bonds, the signal was the same. Because the measurement method couldn't distinguish the actual form of the VOC, EPA (Laxmi Kesari) sent out a guidance document allowing the wood products industry to express VOC as carbon. By 1996, EPA reversed their position and said VOC should be shown as it actually is emitted. Because of the limitations of Method 25A, it is necessary to convert the measured results to an as-emitted molecular weight. More recent guidance from EPA (June 2006) indicated no data are readily available for pulp and paper mills. It was requested for purposes of New Source Review that VOCs be converted from as-carbon basis.

For most wood products, EPA recommended as alpha-pinene ( $C_{10}H_{16}$ ), which means multiplying the as-carbon weight by 1.13. For most combustion sources, as-propane is sufficiently conservative; for which the as-carbon value is multiplied by 1.22. These work unless there is a significant amount of oxygen in the VOC, as with methanol or formaldehyde. Only the paper machines and wastewater treatment units have significant methanol. In these the "as-carbon" emissions have been multiplied by 2.7. The brownstock washers have been converted to a combined alpha-pinene/methanol factor. VOCs have been evaluated with alpha-pinene for the chip handling, chip and bark stacks, etc. and methanol for other process areas, paper machines and WWTS and propane for all other sources.

#### **FACILITY-WIDE EMISSION SUMMARY**

The following pages contain a table displaying a facility-wide summary of potential Mill emissions as presently permitted. The emissions rates presented provide a general summary of emissions from primary mill emission sources as required by DEQ's Title V Renewal Application instructions. The emissions rates presented in this table may or may not represent permit emission limits.



| Emissions Unit Potential Emissions (TPY) |   |                 |                        |                         |                       |                       |                  |                 |             |               |                       |                                    |                  |                        |
|--|---|-----------------|------------------------|-------------------------|-----------------------|-----------------------|------------------|-----------------|-------------|---------------|-----------------------|------------------------------------|------------------|------------------------|
| Source                                   | Source Description                              | PM              | PM <sub>10</sub>       | PM <sub>2.5</sub>       | NO <sub>x</sub>       | SO <sub>2</sub>       | CO               | VOC             | Pb          | TRS           | H <sub>2</sub> S      | H <sub>2</sub> SO <sub>4</sub>     | Fluorides        | CO <sub>2e</sub>       |
| F14-11                                   | Emergency Power House Air Compressor            | 0.17            | 0.16                   | 0.16                    | 9.60                  | 0.00                  | 2.20             | 0.26            | ----        | ----          | ----                  | ----                               | ----             | 465.57                 |
| -  | Saltcake Mix Tank (HBL 51%)                     | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 5.07            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Saltcake Mix Tank (HBL 68%)                     | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 5.07            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Saltcake Mix Tank (HBL 80%)                     | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 5.07            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | No. 1 Black Liquor Soap Storage Tank Weak       | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 7.96            | ----        | 4.62          | 1.46                  | ----                               | ----             | ----                   |
| -  | No. 2 Black Liquor Soap Storage Tank Weak       | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 7.96            | ----        | 4.62          | 1.46                  | ----                               | ----             | ----                   |
| -  | No. 3 Black Liquor Soap Storage Tank Weak       | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 7.96            | ----        | 4.62          | 1.46                  | ----                               | ----             | ----                   |
| -  | No. 4 Black Liquor Soap Storage Tank Weak       | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 7.96            | ----        | 4.62          | 1.46                  | ----                               | ----             | ----                   |
| -  | Cement Pond (Temporary Liquor Storage)          | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 175.72          | ----        | 0.41          | 0.40                  | ----                               | ----             | ----                   |
| -  | Smelt Dissolving Tank Vents                     | 9.44            | 10.07                  | 10.07                   | ----                  | 0.38                  | ----             | 0.58            | 4.34E-05    | 1.05          | 0.93                  | ----                               | ----             | ----                   |
| -  | Recovery Boiler Precipitator Salt Cake Day Tank | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 5.07            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Dump Tank Salt Cake Day Tank                    | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 5.07            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Administration Building Boiler                  | ----            | ----                   | ----                    | ----                  | ----                  | ----             | ----            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Personnel Building Boiler                       | ----            | ----                   | ----                    | ----                  | ----                  | ----             | ----            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Gasoline Storage Tank                           | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 0.56            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | #1 Fuel Oil Storage Tank                        | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 2.71E-03        | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Diesel Chipyard Storage Tanks                   | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 4.92E-03        | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Diesel Shipping Storage Tanks                   | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 2.38E-03        | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Diesel Landfill Storage Tanks                   | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 1.32E-03        | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | No. 1 Filtrate Tank                             | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 8.76E-03        | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | No. 2 Filtrate Tank                             | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 0.00E+00        | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | No. 2 Primary Rejects Tank                      | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 0.01            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | No. 1 Screen Accepts Tank                       | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 7.03            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | No. 1 Refined Rejects Tank                      | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 0.07            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | No. 2 Secondary Rejects Tank                    | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 8.76E-03        | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | No. 1 Screen Rejects Tank                       | ----            | ----                   | ----                    | ----                  | ----                  | ----             | 0.57            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| <b>Valliant Chips, Inc.(C-1)</b>         |   | <b>PM</b>       | <b>PM<sub>10</sub></b> | <b>PM<sub>2.5</sub></b> | <b>NO<sub>x</sub></b> | <b>SO<sub>2</sub></b> | <b>CO</b>        | <b>VOC</b>      | <b>Pb</b>   | <b>TRS</b>    | <b>H<sub>2</sub>S</b> | <b>H<sub>2</sub>SO<sub>4</sub></b> | <b>Fluorides</b> | <b>CO<sub>2e</sub></b> |
| -  | Debarking Drum                                  | 2.20            | 2.20                   | 2.11                    | ----                  | ----                  | ----             | 12.70           | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Chipper   | 2.80            | 2.80                   | 6.53                    | ----                  | ----                  | ----             | 144.00          | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Bark Hog  | 3.10            | 2.20                   | 2.20                    | ----                  | ----                  | ----             | 1.50            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| -  | Vehicle Traffic                                 | 40.30           | 21.90                  | 4.12                    | ----                  | ----                  | ----             | ----            | ----        | ----          | ----                  | ----                               | ----             | ----                   |
| <b>Potential Emission Totals:</b>        |   | <b>1,500.74</b> | <b>1,126.88</b>        | <b>1,027.42</b>         | <b>5,484.57</b>       | <b>7,618.62</b>       | <b>12,112.91</b> | <b>6,177.61</b> | <b>1.17</b> | <b>429.80</b> | <b>267.34</b>         | <b>157.50</b>                      | <b>1.69</b>      | <b>3,586,800.56</b>    |

(a) For the purposes of this analysis, the Mill established potential emissions for each emissions unit by using explicit ton per year (tpy) emission limits for each source as applicable.  
 (b) For units subject to an annual emissions standard or limit, or otherwise subject to an applicable requirement limiting annual emissions, the emissions unit's potential emissions are assumed to equal allowable emissions.  
 (c) Each emission unit's allowable emissions were calculated from the emission limits included in Title V Operating Permit 2013-0465-TV.  
 (C-1) Each emission unit's allowable emissions were calculated from the emission limits included in the Title V Operating Permit 2005-059-TV (M-1) for Valliant Chips, Inc.

**SECTION VIII. PLANTWIDE APPLICABILITY LIMITS (PAL)**

The PALs listed below were determined to be the appropriate limits for the facility based on the regulations and available guidance, as documented in Permit No. 2013-0456-C (M-9).

| Pollutant            | PM <sup>(b)</sup> | PM <sub>10</sub> <sup>(c)</sup> | PM <sub>2.5</sub> <sup>(c)</sup> | NO <sub>x</sub> <sup>(d)</sup> | SO <sub>2</sub> <sup>(e)</sup> | VOC <sup>(f)</sup> |
|----------------------|-------------------|---------------------------------|----------------------------------|--------------------------------|--------------------------------|--------------------|
| Limit <sup>(a)</sup> | 778.9             | 836.0                           | 788.0                            | 4,753.6                        | 2,555.8                        | 3,012.0            |

| Pollutant | CO <sup>(g)</sup> | Pb <sup>(h)</sup> | TRS <sup>(i)</sup> | H <sub>2</sub> S <sup>(j)</sup> | SAM <sup>(k)</sup> | HF <sup>(l)</sup> |
|-----------|-------------------|-------------------|--------------------|---------------------------------|--------------------|-------------------|
| Limit     | 4,653.4           | 1.2               | 179.8              | 147.3                           | 46.6               | 3.5               |

- (a) Tons / rolling 12-month period, based on calendar month.
- (b) PM is based on Filterable Only
- (c) PM<sub>10</sub> and PM<sub>2.5</sub> are based on filterable and condensable
- (d) NO<sub>x</sub> - Oxides of nitrogen (NO/NO<sub>2</sub>)
- (e) SO<sub>2</sub> - Sulfur Dioxide
- (f) VOC - Volatile Organic Compounds expressed on an as compound basis
- (g) CO - Carbon Monoxide
- (h) Pb - Lead
- (i) TRS – Total Reduced Sulfur
- (j) H<sub>2</sub>S – Hydrogen Sulfide
- (k) SAM – Sulfuric Acid Mist (H<sub>2</sub>SO<sub>4</sub>)
- (l) HF – Fluorides as Hydrogen Fluorides

**Historic Permit Limits Eliminated By PAL Permit**

Under the PAL regulations at 40 CFR §51.166(w)(1)(ii)(c), facilities subject to a PAL are not subject to the provisions in the PSD regulations at 40 CFR §51.166(r)(2) that restrict the relaxation of enforceable emission limitations established in previous permitting to avoid PSD applicability. Numerous emissions and production restrictions that have heretofore applicable to various emissions units at the Valliant Mill were associated with historical Mill permits that represent enforceable emission limitations that were used to avoid applicability of major NSR requirements (i.e., PSD), and have accordingly been removed as documented in Permit No. 2013-0456-C (M-9).

**PAL Compliance Demonstration Methodology**

Pursuant to 40 CFR §51.166(w)(3)(iii) (incorporated by reference at OAC 252:100-8-38(a)), the owner or operator of a major facility submitting a PAL application shall include the calculation procedures that will be used to convert the monitoring system data to monthly emissions and annual mass emissions based on 12-month rolling total emissions for each month. Inherent in this requirement is knowledge of the monitoring and recordkeeping methods that will be used to track emissions of each PAL pollutant from each emissions unit for purposes of calculating rolling 12-month total emissions each month to demonstrate compliance with the PAL levels. The Valliant Mill will be required to comply with the monitoring and recordkeeping requirements listed in 40 CFR §51.166(w)(12) through (14). The data to be monitored for each emissions unit and the method by

which the data will be recorded for each emissions unit and PAL pollutant is briefly discussed in the following sections.

The monthly mass emissions of each individual PAL pollutant will be summed (by pollutant) for each emissions unit and on a mill-wide basis. The monthly totals (ton/month) will be summed with the monthly totals from the previous 11 months (by pollutant) for each emissions unit and facility-wide to determine the actual 12-month rolling total mass emission rates in tons per year (tpy). The following subsections identify how emissions of the PAL pollutants will be calculated for each type of emissions unit at the facility and how the emissions will be converted to a monthly mass emission rate.

IP proposes to use the following methods presented in Table A-1, Appendix A, to calculate mass emissions of PAL pollutants from each emissions unit and facility-wide in accordance with 40 CFR §51.166(w)(12)(ii)(a) through (d):

- Mass balance calculations [40 CFR §51.166(w)(12)(ii)(a)].
- CEMS [40 CFR §51.166(w)(12)(ii)(b)].
- CPMS or PEMS [40 CFR §51.166(w)(12)(ii)(c)].
- Emission factors [40 CFR §51.166(w)(12)(ii)(d)].

The methods described in Table A-1, Appendix A, are referenced in Table A-2, Appendix A, which presents a detailed list of proposed emission calculation technique specified by emission unit and pollutant.

Table A-2, Appendix A, includes a list of emission factors that will be fixed for the duration of the PAL permit term and will be used to demonstrate compliance with the PAL levels. Fixed emission factors include those emission factors used to calculate BAE rates that were based on published emission factors (i.e., NCASI or U.S. EPA's AP-42). During the PAL permit renewal, the Mill and DEQ will review the fixed emission factors to determine if any emission factors need to be updated. The Mill will use actual stack test data, emissions monitoring data, or other sampling data to demonstrate compliance with the PAL levels or fixed emission factors.

Per 40 CFR §51.166(w)(12)(vi)(c), if technically practicable, IP must conduct validation testing within six (6) months of PAL permit issuance for significant emission units that relied upon an emission factor to calculate PAL BAE rates unless DEQ determines testing is not required. The sources that will be subject to validation testing six (6) months after the PAL permit is issued are listed in the table below. In addition, there are significant emissions units and pollutants for which it is not technically practicable to conduct validation testing, which are detailed in the table on the following page.

**International Paper - Valliant Mill  
Validation Testing for Significant Emission Units**

| Source ID | Source Description            | Pollutant                      | Test Method <sup>(a)</sup> |
|-----------|-------------------------------|--------------------------------|----------------------------|
| EUG B2    | No. 2 Brownstock Washing Area | VOC                            | Method 25A                 |
| EUG B3    | No. 3 Brownstock Washing Area | VOC                            | Method 25A                 |
| EUG D1    | Bark Boiler                   | Pb                             | Method 29                  |
| EUG D3    | Package Boiler                | NO <sub>x</sub>                | Method 7                   |
| EUG D6    | Recovery Furnace              | H <sub>2</sub> SO <sub>4</sub> | Method 8                   |

(a) The Mill will use the noted test method or an alternative test method approved by DEQ.

Emissions from insignificant equipment and trivial activities previously identified were reviewed for evaluation as part of the PALs. Equipment determined to have no quantifiable emissions were not included in the evaluation of the PALs.

**Not Practicable Validation Testing Emission Units**

| Source ID    | Source Description                       | Pollutant                      | Notes   |
|--------------|--|--------------------------------|---|
| EUG C1/C2/C3 | No. 1 Paper Machine                      | PM <sub>10</sub>               | Fugitive emissions unit. Testing is not feasible.                                 |
|              |  | PM <sub>2.5</sub>              |   |
| EUG C4/C5/C6 | No. 2 Paper Machine                      | PM <sub>10</sub>               | Fugitive emissions unit. Testing is not feasible.                                 |
|              |  | PM <sub>2.5</sub>              |   |
| EUG C7/C8/C9 | No. 3 Paper Machine                      | PM <sub>10</sub>               | Fugitive emissions unit. Testing is not feasible.                                 |
|              |  | PM <sub>2.5</sub>              |   |
| EUG D1       | Bark Boiler                              | H <sub>2</sub> SO <sub>4</sub> | Emission unit does not burn fuel oil. Validation testing not practicable.         |
| EUG D2       | Power Boiler                             | H <sub>2</sub> SO <sub>4</sub> | Emission unit cannot currently burn fuel oil. Validation testing not practicable. |
| EUG D6       | Recovery Furnace                         | TRS                            | Emission unit maintains CEMS.   |
|              |  | H <sub>2</sub> S               |   |
| EUG E2b      | Evaporator Sump                          | TRS                            | Emission unit collects black liquor spills. Validation testing not practicable.   |
|              |  | H <sub>2</sub> S               |   |
| EUG E7a      | Lime Kiln                                | PM <sub>2.5</sub>              | PAL BAE rates determined by stack test data. Validation testing not required.     |
|              |  | SO <sub>2</sub>                |   |
|              |  | TRS                            | Emission unit maintains CEMS.   |
| EUG E8       | Tall Oil Plant                           | TRS                            | Emission unit a batch process. Validation testing not practicable.                |
| EUG F2       | Plant Traffic Road Emissions             | PM <sub>10</sub>               | Fugitive emissions unit. Testing is not feasible.                                 |
|              |  | PM <sub>2.5</sub>              |   |
| EUG F4a      | NCG Thermal Oxidizer                     | PM                             | Unit used as a back-up control device. Operates less than 2 weeks per year.       |
|              |  | PM <sub>10</sub>               |   |
|              |  | PM <sub>2.5</sub>              |   |
|              |  | CO <sub>2e</sub>               | Greenhouse gases, not practicable to conduct testing.                             |
| EUG F5       | Solid Waste Disposal Facility Operations | PM                             | Fugitive emissions unit. Testing is not feasible.                                 |
|              |  | PM <sub>10</sub>               |   |

| Source ID  | Source Description                                     | Pollutant         | Notes  |
|------------|--|-------------------|--|
| EUG F7     | Wood Chip Screening and Conditioning Unit - No. 1 Line | PM <sub>2.5</sub> | Fugitive emissions unit. Testing is not feasible.  |
| EUG F9     | Wood Chip Screening and Conditioning Unit - No. 3 Line | PM <sub>2.5</sub> | Fugitive emissions unit. Testing is not feasible.  |
| EUG F14-2  | Emergency Generator at Recovery Furnace                | CO <sub>2e</sub>  | Greenhouses gas not practicable to conduct testing |
| EUG F14-4  | Emergency Generator at Receiving Basin                 | CO <sub>2e</sub>  |  |
| EUG F14-5  | #1 Emergency Fire Pump                                 | CO <sub>2e</sub>  |  |
| EUG F14-6  | #2 Emergency Fire Pump                                 | CO <sub>2e</sub>  |  |
| EUG F14-8  | Emergency Lime Kiln Auxiliary Engine "Tractor"         | CO <sub>2e</sub>  |  |
| EUG F14-9  | Deutz D914L06 Stormwater Pump                          | CO <sub>2e</sub>  |  |
| EUG F14-10 | Deutz D914L06 Stormwater Pump Woodyard                 | CO <sub>2e</sub>  |  |
| EUG F14-11 | Emergency Power House Air Compressor                   | CO <sub>2e</sub>  |  |
| EUG F14-12 | Security Building Emergency Generator                  | CO <sub>2e</sub>  |  |

**HAPs and Subchapter 42 Pollutant Emissions**

Emissions of HAPs and of toxic pollutants previously subject to OAC 252:100-42 were determined using emission factors taken from National Council of the Paper Industry for Air and Stream Improvement (NCASI) Technical bulletins, U.S. EPA AP-42 reference documents, or mill data. Since every pulp and paper product manufacturing facility is unique, the NCASI bulletins and AP-42 reference documents do not always contain sufficient data to accurately estimate emissions of all such pollutants. When appropriate, engineering judgment was used to apply mill data that may or may not be specific to the Valliant Mill, to estimate emissions. This facility is a major source of HAP emissions.

## HAP Emissions

| CAS Number   | HAP                       | Emissions  |              |
|--------------|---------------------------|------------|--------------|
|              |                           | lb/hr      | TPY          |
| 75070        | Acetaldehyde              | 6.21       | 27.2         |
| 98862        | Acetophenone              | 0.13       | 0.57         |
| 107028       | Acrolein                  | 1.47       | 6.40         |
| 71432        | Benzene                   | 1.20       | 5.27         |
| 92524        | Biphenyl                  | 0.04       | 0.19         |
| 75150        | Carbon disulfide          | 0.37       | 1.60         |
| 56235        | Carbon tetrachloride      | 3.42       | 15.0         |
| 463581       | Carbonyl sulfide          | 0.01       | 0.04         |
| 108907       | Chlorobenzene             | 0.29       | 1.27         |
| 67663        | Chloroform                | 2.83       | 12.4         |
| 98828        | Cumene                    | 0.16       | 0.70         |
| 100414       | Ethyl benzene             | 0.19       | 0.85         |
| 50000        | Formaldehyde              | 12.1       | 53.1         |
| 118741       | Hexachlorobenzene         | <0.01      | <0.01        |
| 77474        | Hexachlorocyclopentadiene | 0.02       | 0.09         |
| 110543       | Hexane                    | 3.27       | 14.3         |
| 7647010      | Hydrochloric acid         | 10.8       | 47.2         |
| 67561        | Methanol                  | 354        | 1,551        |
| 108101       | Methyl isobutyl ketone    | 3.82       | 16.7         |
| 75092        | Methylene chloride        | 2.33       | 10.2         |
| 108383       | m-Xylene                  | 0.94       | 4.11         |
| 91203        | Naphthalene               | 0.36       | 1.59         |
| 95476        | o-Xylene                  | 0.65       | 2.86         |
| 108952       | Phenol                    | 0.27       | 1.19         |
| 7723140      | Phosphorus                | 0.10       | 0.44         |
| 123386       | Propionaldehyde           | 0.26       | 1.12         |
| 106423       | p-Xylene                  | 1.42       | 6.20         |
| 7782492      | Selenium                  | 0.14       | 0.61         |
| 100425       | Styrene                   | 1.54       | 6.75         |
| 108883       | Toluene                   | 0.80       | 3.50         |
| 79016        | Trichloroethylene         | 1.68       | 7.36         |
| 108054       | Vinyl acetate             | 0.01       | 0.03         |
| 75014        | Vinyl chloride            | 0.05       | 0.22         |
| 79005        | 1,1,2-Trichloroethane     | 1.07       | 4.70         |
| 120821       | 1,2,4-Trichlorobenzene    | 2.95       | 12.9         |
| <b>TOTAL</b> |                           | <b>415</b> | <b>1,818</b> |

**Greenhouse Gases (GHG) Emissions**

For informational purposes, Valliant Mill has provided the following estimate of actual CO<sub>2</sub>e emissions, US tons per year, for calendar year 2012. The global warming potentials in effect at the time the original application was submitted were 21 for methane and 310 for nitrous oxide. It is noted that, as discussed in the preamble to the rule contained in the Federal Register notice dated October 30, 2009, the federal GHG reporting requirements given in 40 CFR Part 98 are not considered “applicable requirements,” as defined in 40 CFR 70.2, under the title V operating permit program. Therefore, the federal GHG reporting requirements in 40 CFR Part 98 do not need to be included in the title V permit.

**Greenhouse Gases (GHG) Emissions**

| Source (2012 Actuals)                             | Applicable Subpart | Emissions in TPY |              |               |                         |
|---|--------------------|------------------|--------------|---------------|-------------------------|
|   |                    | CO <sub>2</sub>  | Methane      | Nitrous Oxide | Total CO <sub>2</sub> e |
| Lime Kiln   | AA                 | 66,149           | 2.82         | 0.00          | 66,208                  |
| Recovery Boiler                                   | AA                 | 1,192,038        | 375          | 62.4          | 1,219,251               |
| Bark Boiler                                       | C                  | 478,284          | 149          | 19.5          | 487,467                 |
| CP-1 Comfort Headers & HW Headers                 | C                  | 0.00             | 0.00         | 0.00          | 0.00                    |
| Package Boiler (Standby)                          | C                  | 719              | 0.01         | 0.00          | 719                     |
| PB  | C                  | 145,412          | 2.85         | 0.31          | 145,567                 |
| Thermal Oxidizer                                  | C                  | 5,220            | 0.10         | 0.01          | 5,226                   |
| Landfill #1-Construction & Demolition             | TT                 | 0.00             | 0.00         | 0.00          | 0.00                    |
| Landfill #1-Food Processing                       | TT                 | 0.00             | 0.00         | 0.00          | 0.00                    |
| Landfill #1-Inert                                 | TT                 | 0.00             | 0.00         | 0.00          | 0.00                    |
| Landfill #1-Other Industrial Solid Waste          | TT                 | 0.00             | 166.4        | 0.00          | 3,494                   |
| Landfill #1-Pulp and Paper                        | TT                 | 0.00             | 3,387        | 0.00          | 71,126                  |
| Landfill #1-Wood and Wood Products                | TT                 | 0.00             | 250.2        | 0.00          | 5,254                   |
| Other Disposal Areas-Construction & Demolition    | TT                 | 0.00             | 0.00         | 0.00          | 0.00                    |
| Other Disposal Areas-Food Processing              | TT                 | 0.00             | 0.00         | 0.00          | 0.00                    |
| Other Disposal Areas-Inert                        | TT                 | 0.00             | 0.00         | 0.00          | 0.00                    |
| Other Disposal Areas-Other Industrial Solid Waste | TT                 | 0.00             | 0.00         | 0.00          | 0.00                    |
| Other Disposal Areas-Pulp and Paper               | TT                 | 0.00             | 599          | 0.00          | 12,587                  |
| Other Disposal Areas-Wood and Wood Products       | TT                 | 0.00             | 0.00         | 0.00          | 0.00                    |
| <b>Total</b>                                      |                    | <b>1,887,821</b> | <b>4,932</b> | <b>82.3</b>   | <b>2,016,897</b>        |

Note: The emissions provided above represent actual GHG emissions from the Valliant Mill and are included for informational purposes only. These emissions are not intended to be construed or incorporated as emissions limitations in the Title V Permit.

**SECTION IX. BART REVIEW**

To be an affected BART [Best Available Retrofit Technology] source, a source must meet the following criteria:

- \*the source must fall within the 26 source category list,
- \*have units which were put in place during the 1962 to 1977 time frame,
- \*and have potential emissions of air pollutants (NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>) which may reasonably cause or contribute to visibility impairment above 250 TPY from affected units.

The Valliant Mill is subject to BART requirements. The Valliant Mill applied for a BART waiver on December 1, 2006. Oklahoma DEQ approved the waiver on October 1, 2009. On December 28, 2011, U.S. EPA approved the Regional Haze SIP; therefore, the Mill has five years to comply with applicable requirements and revised emission limitations.

Determination of the appropriate permit limits is documented in previous permits. The following table provides a summary of the revised BART permit limits for those units with reduced emission rates. All applicable requirements are incorporated into the specific conditions of this permit. Compliance with the limits is required within five years of the Oklahoma Regional Haze SIP approval by EPA (approved on December 28, 2011).

**REGIONAL HAZE VOLUNTARY LIMITS (24-HOUR AVERAGE)**

| Point ID | Source Name  | SO <sub>2</sub> | NO <sub>x</sub> | PM\PM <sub>10</sub> |
|----------|--------------|-----------------|-----------------|---------------------|
|          |              | lbs/hr          | lbs/hr          | lbs/hr              |
| DI       | Bark Boiler  | 135             | 270             | 90.0                |
| D2       | Power Boiler | 252             | 256             | 42.7                |

**SECTION X. OKLAHOMA AIR POLLUTION CONTROL RULES**

OAC 252:100-1 (General Provisions) [Applicable]  
 Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]  
 The purpose of this Subchapter is to incorporate by reference applicable provisions of Title 40 of the Code of Federal Regulations. The provisions of Title 40 of the Code of Federal Regulations listed in OAC 252:100, Appendix Q are hereby incorporated by reference as they existed on November 1, 2013.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]  
 Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards.

OAC 252:100-5 (Registration, Emissions Inventory and Annual Operating Fees) [Applicable]  
 Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]  
Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the “Insignificant Activities” or “Trivial Activities” thresholds require prior notification to AQD and

may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for a HAP that the EPA may establish by rule

Emission limitations and operational requirements necessary to assure compliance with all applicable requirements for all sources are taken from the permit application, from the existing Part 70 permit, from existing PSD construction permits, from the PAL regulations, or are developed from the applicable requirement.

OAC 252:100-9 (Excess Emission Reporting Requirements) [Applicable]  
 Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible, but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emissions event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess event describing the extent of the event and the actions taken by the owner or operator in response to this event. Request for mitigation, as described in OAC 252:100-9-8, shall be included in the excess emissions event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]  
 Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter (PM)) [Applicable]  
 This subchapter is applicable to the Lime Kiln, boilers, and the Recovery Furnace but not to the NCG Thermal Oxidizer. "Fuel-burning equipment" is defined as boilers, gas turbines, or other combustion devices and all appurtenances thereto used to convert fuel or waste into useable heat or power. The Thermal Oxidizer does not provide any useable heat or power and, therefore, does not meet the definition of fuel-burning equipment.

Subchapter 19 specifies PM emissions limitations based on heat input capacity. The following table lists applicable standards by unit and anticipated PM emissions. For most of the combustion devices, applicable permit limitations are more stringent than Subchapter 19.

**COMPARISON OF PM EMISSIONS TO LIMITATIONS OF OAC 252:100-19**

| Unit             | Heat Input Capacity, MMBTUH | PM Emission Limitation of OAC 252:100-19, lb/MMBTU | PM Emission Rate (Total PM), lb/MMBTU |
|------------------|-----------------------------|--|---------------------------------------|
| Bark Boiler      | Confidential                | 0.21   | 0.10                                  |
| Power Boiler     | Confidential                | 0.20   | < 0.20                                |
| Package Boiler   | Confidential                | 0.29   | 0.0150                                |
| Recovery Furnace | Confidential                | 0.19   | <0.19                                 |
| Lime Kiln        | Confidential                | 0.30   | < 0.30                                |

Subchapter 19 specifies a limit of PM emissions from wood-waste burning equipment of 0.35 lb/MMBTU. The Bark Boiler is subject to this standard. Emissions from the Bark Boiler are limited to 0.1 lb/MMBTU, which is in compliance with Subchapter 19.

This subchapter limits emissions of particulate matter from processes other than fuel-burning equipment based on their process weight rate. The following table compares the emissions rates of PM with the allowable PM emissions under Subchapter 19, showing that the facility is in compliance.

**COMPLIANCE WITH SUBCHAPTER 19**

| Operation                                     | Process Weight Rate, TPH | PM Emissions, lb/hr |           |
|---|--------------------------|---------------------|-----------|
|   |                          | Allowable           | Permitted |
| Smelt Dissolving Tank                         | confidential             | *                   | 46.3**    |
| Lime Slaker No. 1                             | confidential             | *                   | 1.8       |
| Lime Slaker No. 2                             | confidential             | *                   | 1.8       |
| Lime Kiln                                     | confidential             | *                   | 52.2      |
| No. 1 Line Chip Screening & Conditioning Unit | 44.5                     | *                   | 1.5       |
| No. 3 Line Chip Screening & Conditioning Unit | 57.9                     | *                   | 1.5       |

\* Allowable PM emission rates for these units have been verified from confidential information.

\*\*Smelt dissolving tank covered by Subpart MM. Emissions routed to Recovery Furnace (permit limit).

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]  
 No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. Compliance with this subchapter will be required by the permit.

OAC 252:100-29 (Fugitive Dust) [Applicable]  
 Subchapter 29 prohibits the handling, transportation, or disposition of any substance likely to become airborne or wind-borne without taking “reasonable precautions” to minimize emissions of fugitive dust. No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. Most of the materials handled are wood/wood waste, therefore non-brittle and not very susceptible to becoming fugitive dust. Haul roads and the Solid Waste Disposal Facility are watered to minimize emissions of fugitive dust.

OAC 252:100-31 (Sulfur Compounds) [Applicable]  
Part 2 limits H<sub>2</sub>S impacts to the ambient limitation of 0.2 ppm (24 hrs. average). The facility has demonstrated compliance with this requirement.  
Part 3 specifies limitations on total reduced sulfur compounds emissions. The following table lists the standards of Subchapter 31 for existing Kraft paper mills. Although the Recovery Furnace was constructed in 2006, it is subject to these requirements.

**COMPLIANCE WITH TRS EMISSIONS LIMITATIONS**

| Emission Unit   | TRS Emission Limitation of OAC 252:100-31 (12-hour average as H <sub>2</sub> S on a dry basis) | TRS Emission Rate Test Results            |
|---|--|---|
| Lime Kiln   | 40 ppm @ 10% O <sub>2</sub>  | 31.3 ppm @ 10% O <sub>2</sub> (1989)      |
| Smelt Dissolving Tanks  | 0.016 g TRS per kilogram (0.033 lb/ton) black liquor solids                                    | Emits through the Recovery Furnace (2007) |
| NCG Thermal Oxidizer, when incinerating NCGs from the evaporators and digesters | 5 ppm by volume  | 0.9 ppm (4/5-6/02 stack test)             |

Part 5 limits sulfur dioxide emissions from new equipment (constructed after July 1, 1972). For gaseous fuels, the limit is 0.2 lbs/MMbtu heat input; for liquid fuels, the limit is 0.8 lb/MMBTU; and for solid fuels, the limit is 1.2 lb/MMBTU. The permitted SO<sub>2</sub> emission rates are much more stringent than Subchapter 31 limits.

OAC 252:100-33 (Nitrogen Oxides) [Applicable]  
 Subchapter 33 affects new fuel-burning equipment with a rated heat input of 50 MMBTUH or more. The following table compares anticipated NO<sub>x</sub> emission rates with applicable limitations of Subchapter 33. The Diesel Stormwater Pump has a rated heat input well below the de minimis and is not subject to this subchapter. The Lime Kiln and Power Boiler were constructed prior to 1972 and are not subject to this subchapter.

**COMPLIANCE WITH NO<sub>x</sub> EMISSIONS LIMITATIONS**

| Unit           | Primary Fuel Type | NO <sub>x</sub> Emission Limitation of OAC 252:100-33, lb/MMBTU* | NO <sub>x</sub> Emission Rate, lb/MMBTU |
|----------------|-------------------|--|---|
| Package Boiler | Gas               | 0.2  | 0.1                                     |

\* Three-hour averages calculated as NO<sub>2</sub>

AQD has become aware of an issue related to applicability of Subchapter 33 to certain solid fuels. The regulation is specific to “solid fossil fuels” and does not address other solid fuels that are burned individually or in combination with other fuels. The issue of whether (and if so, how) Subchapter 33 is applicable to other solid fuels was reviewed by AQD in Applicability Determination 2013-0465-AD (M-8) issued July 14, 2017. This determination states that the Subchapter 33 only applies to the recovery furnace when the unit is burning fossil fuels (natural gas and distillate oil), and is not applicable when the furnace is processing black liquor solids (BLS).

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]  
 This subchapter affects gray iron cupolas, blast furnaces, basic oxygen furnaces, petroleum catalytic cracking units, and petroleum catalytic reforming units. There are no affected sources.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]  
 Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and containing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. This affects the gasoline storage tank, but all other tanks have vapor pressures below the 1.5 psia threshold.

Part 5 limits the VOC content of coating or other operations. This facility does not normally conduct coating or painting operations except for routine maintenance of the facility and equipment which is not an affected operation.

Part 7 affects effluent water separators. This requirement affects only processing of organic materials with a vapor pressure above 1.5 psia. Therefore, this requirement is not applicable.

Part 7 also requires fuel-burning equipment to be operated and maintained so as to minimize emissions. Temperature and available air must be sufficient to provide essentially complete combustion. The equipment at this location is subject to this requirement.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]

This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]

This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

**The following Oklahoma Air Pollution Control Rules are not applicable to this facility.**

|                |                                 |                           |
|----------------|---------------------------------|---------------------------|
| OAC 252:100-07 | Permits for Minor Facilities    | not in source category    |
| OAC 252:100-11 | Alternative Emissions Reduction | not requested             |
| OAC 252:100-17 | Incinerators                    | not type of emission unit |
| OAC 252:100-23 | Cotton Gins                     | not type of emission unit |
| OAC 252:100-24 | Grain Elevators                 | not in source category    |
| OAC 252:100-39 | Nonattainment Areas             | not in source category    |
| OAC 252:100-40 | Friable Asbestos                | not in source category    |
| OAC 252:100-47 | Landfills                       | not in source category    |

**SECTION XI. FEDERAL REGULATIONS**

Protection of Visibility, 40 CFR 51 Subpart P

[Applicable]

The primary purposes of this subpart are to require states to develop programs to assure reasonable progress toward meeting the national goal of preventing any future, and remedying any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution; and to establish necessary additional procedures for new source permit applicants, states and Federal Land Managers to use in conducting the visibility impact analysis required for new sources under §51.166. This subpart sets forth requirements addressing visibility impairment in its two principal forms: “reasonably attributable” impairment (i.e., impairment attributable to a single source/small group of sources) and regional haze (i.e., widespread haze from a multitude of sources which impairs visibility in every direction over a large area). Regional haze visibility impairment is partially addressed through the Best Available Retrofit Technology (BART) process. The facility has been determined to be subject to a BART review.

*Best Available Retrofit Technology requirements for regional haze visibility impairment.*

Valliant must either submit a BART review or a demonstration that the BART-eligible sources do not cause or contribute to any impairment of visibility in any mandatory Class I Federal area. Valliant proposed to take enforceable limits, such that they would not cause or contribute to any impairment of visibility in any mandatory Class I Federal area. Requirements to comply within 5 years of SIP approval have been included in the permit.

PSD, 40 CFR Part 52

[Not Applicable]

The facility is a major source for NO<sub>x</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub>, and VOC, and several PSD permits have been issued. PSD permitting requirements are not applicable to proposed changes at the facility so long as the Mill complies with the limits specified in the permit per 40 CFR §51.166(w)(1)(ii) for each regulated NSR-pollutant covered by a PAL.

NSPS, 40 CFR Part 60

[Subparts A, D, Db, BB, BBa, IIII, and JJJJ are Applicable]

Subpart A (General Provisions) requires the submittal of several notifications for NSPS-affected sources. These provisions apply and appropriate notifications are required.

Subpart D (Steam Generating Units) affects boilers with a rated heat input greater than 250 MMBTUH that commenced construction, reconstruction, or modification after August 17, 1971. This subpart affects the Bark Boiler, specifying emissions limitations of 0.8 lb/MMBTU SO<sub>2</sub>, 0.10 lb/MMBTU PM, and 0.3 lb/MMBTU NO<sub>x</sub>. CEMS systems measuring opacity, NO<sub>x</sub>, SO<sub>2</sub>, and a diluent gas (CO<sub>2</sub> or O<sub>2</sub>) are required.

Subpart Db (Steam Generating Units) affects boilers with a rated heat input of greater than 100 MMBTUH heat input. The Recovery Furnace is subject to Subpart Db, but the facility has requested an enforceable condition limiting natural gas firing to a 10% annual capacity factor.

Subpart Kb (Volatile Organic Materials Storage Vessels) affects tanks with a capacity above 19,813 gallons which commenced construction, reconstruction, or modification after July 23, 1984. The facility records of tank dimensions, capacity, and maximum true vapor pressure show that vessels storing organic liquids have true vapor pressures below 0.5. However, the storage temperature of black liquor is relatively constant since the process generating the black liquor is kept at a relatively constant temperature. Both distillate and residual fuel oils have vapor pressures below 0.01 psia at 60°F. The tanks are not subject to subpart Kb.

Subpart Y (Coal Preparation Plant) affects thermal dryers, pneumatic coal cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems at any coal preparation plant that commences construction or modification after October 24, 1974. The Valliant Mill is not considered a coal preparation plant, as it does not operate any of the processes identified in 40 CFR 60.251(a) breaking, crushing, screening, wet or dry cleaning, and thermal drying of coal. Therefore, this subpart is not applicable.

Subpart BB (Kraft Paper Mills) affects each digester system, brown stock washer system, multiple-effect evaporator, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system (i.e., steam stripping system) in kraft pulp mills, for which construction, modification, or reconstruction is commenced after September 24, 1976, but before May 23, 2013. The No. 2 brownstock washer and spent liquor concentrator were modified after the effective date; therefore they are subject to NSPS Subpart BB. No add-on controls were required for the No. 2 brownstock washer direct emissions. The Lime Kiln and the NCG Thermal Oxidizer are pollution control devices for equipment subject to Subpart BB. Subpart BB prohibits discharge into the atmosphere of gases that contain total reduced sulfur (TRS) in excess of 5 ppm by volume unless the gases are combusted in an incinerator or other device not subject to the provisions of this subpart and are subjected to a minimum temperature of 1,200 °F for at least 0.5 seconds. Subpart BB requires a continuous monitoring system and describes excess emissions as periods in excess of 5 minutes in duration in which the combustion temperature at the point of incineration is less than 1,200°F. The applicant will maintain compliance with NSPS Subpart BB by continuously monitoring the control device combustion temperature and using engineering calculations to determine residence time. The Lime Kiln is subject to 40 CFR 60, Subpart BB when combusting exhaust gases as a back up to the NCG Collection System and Thermal Oxidizer. The Recovery Furnace is the primary combustion source for NCGs/SOGs. The new Smelt Dissolving Tank and Mix Tanks emit through the Recovery Furnace.

Subpart BBa (Kraft Paper Mills) affects each digester system, brown stock washer system, multiple-effect evaporator, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system (i.e., steam stripping system) in kraft pulp mills, for which construction, modification, or reconstruction is commenced after May 23, 2013. This subpart includes standards for filterable matter (PM) that apply to certain recovery furnaces, dissolving tanks and lime kilns. This subpart includes standards for TRS that apply to certain digester systems, BSW systems, multiple evaporator systems, condensate strippers, recovery furnaces, smelt dissolving tanks, and lime kilns. The proposed improvements to the mud washing/filtration systems are not expected to result in any increase of the TRS emissions of the lime kiln. However, the proposed changes to the No. 2 digester system, No. 3 digester system, and multiple effect evaporator system are expected to result in a very small short-term increase in TRS emissions from the control devices serving these units. Therefore, the proposed changes to these systems are considered a modification under this Subpart. Following completion of the project, the Mill will comply with the applicable provisions of 40 CFR §60.283a(a)(1) in accordance with 40 CFR §60.283a(a)(1)(ii) when NCG are combusted in the primary control device (i.e. the recovery furnace). There are no additional monitoring or recordkeeping requirements for the Mill when complying with 40 CFR §60.283a(a)(1)(ii). The Mill may also comply with the provisions of 40 CFR §60.283a(a)(1) in accordance with 40 CFR §60.283a(a)(1)(iii) when NCG are combusted in the secondary and tertiary control devices (i.e. the Lime Kiln and NCG thermal oxidizer). Under 40 CFR §60.283a(a)(1), the Mill is required to install a device on the Lime Kiln and NCG thermal oxidizer to continuously measure the combustion temperature at the point of incineration. The Mill must record at least once each successive 5-minute period all measurement from the continuous

temperature monitor in accordance with 40 CFR §60.284a(c)(2) and 3-hour average block averages must be calculated from the recorded data.

Subpart IIII, (Stationary Compression Ignition Internal Combustion Engines) affects engines F14-9 and F14-10. The engines must be certified and must use fuel that meets the requirements of CFR 60.4207(b).

Subpart JJJJ, (Stationary Spark Ignition (SI) Internal Combustion Engines (ICE)) affects the Generac emergency generator engine (F14-7). The engine must be certified and the owner/operator is required to keep records of all maintenance conducted on an engine per 40 CFR 60.4245(a)(2).

Subpart WWW (Municipal Solid Waste Landfills) is not applicable. The Mill's Solid Waste Disposal Facility does not receive municipal solid waste as defined by the regulation.

NESHAP, 40 CFR Part 61

[Subpart A and E Applicable]

Subpart A (General Provisions) outlines generally applicable requirements including notification, recordkeeping, performance testing, and monitoring requirements. The Valliant Mill is subject to this subpart.

Subpart E (Mercury Emissions) affects wastewater treatment sludge incineration, limiting mercury emissions to 3,200 grams per 24-hour period. This standard affects the Bark Boiler that is used to dispose of water treatment sludge. The permit requires compliance with all applicable requirements.

Subchapter M (Standards for Asbestos-Containing Materials) applies to the extent in which demolition or renovation operations will occur in the presence of asbestos, including Category I and Category II nonfriable ACM. The Mill is only subject to Subpart M if a given project meets the applicability requirements of Subchapter M.

NESHAP, 40 CFR Part 63

[Subparts A, S, MM, ZZZZ, and DDDDD Are Applicable]

There are three subparts which affect the Pulp and Paper Industry. The provisions of these subparts apply to a major source that uses the following processes and materials:

1. Kraft, soda, sulfuric, or semi-chemical pulping processes using wood; or
2. Mechanical pulping processes using wood; or
3. Any process using secondary or non-wood fibers.

Subpart A (General Provisions) outlines generally applicable requirements including notification, recordkeeping, performance testing, and monitoring requirements. The Valliant Mill is subject to this subpart.

Subpart S (Pulp & Paper Industry) establishes MACT standards for control of HAPs from pulp and paper production which were finalized and published in the Federal Register on April 15, 1998. These standards will affect knoter systems (wood knot removal systems), pulp screens, pulp washing systems, decker systems, digester vents, evaporator system vents, turpentine recovery systems, weak liquor evaporators, and other high-volume-low-concentration (HVLC) and low-volume-high-concentration (LVHC) systems. These units are currently vented to the NCG collection system and combusted. The pulp washing systems are using the Clean Condensate Alternative 40 CFR 63.447. In September 2012, U.S. EPA finalized the residual risk and technology review for pulp and paper mills. As a result of U.S. EPA's review, revisions have been made to 40 CFR Part 63 Subpart S, which were published in the September 11, 2012 edition of the Federal Register (Vol. 77-176 FR 55698).

There are several units not affected by Subpart S but that do have significant HAP emissions. In addition to the No. 3 Brownstock washer (semi-chemical process), Subpart S does not affect the paper machines; applicability ends at the last pulp washing step. The OCC plants are “secondary fiber” processes, but the only standards of Subpart S that affect secondary fiber processes are for bleaching units; there is no bleaching unit at this facility.

Subpart MM establishes standards for control of HAPs from chemical recovery combustion sources that affect recovery furnaces, smelt dissolving tanks, and lime kilns. The Recovery Furnace, Smelt Dissolving Tank, Lime Kiln are subject to Subpart MM. Compliance with the applicable requirements of Subpart MM is included in the specific conditions of this permit.

Subpart ZZZZ (RICE MACT) establishes standards for new and existing stationary internal combustion engines at major and area sources of HAPs. The Valliant Mill operates a number of engines (EUG F14) that are subject. One engine (F14-7) is an affected facility under NSPS Subpart JJJJ, and satisfies ZZZZ through compliance with JJJJ. Two engines (F14-9 and F14-10) are affected facilities under NSPS Subpart IIII, and satisfy ZZZZ through compliance with IIII. The remaining eight engines are existing compression ignition (CI) engines. Two engines (F14-4 and F14-11) are rated above 500 hp, and 40 CFR 63.6600(c) states that they are exempt from all emissions limitations and operating limitations. Six of the CI engines are rated at less than 500 hp, and §6602 states that all engines must comply with the operating requirements of Table 2c. In this instance, Item 1 is the significant portion of the table. Finally, all diesel engines are subject to the fuel requirements of §6604.

Subpart DDDDD (Industrial, Commercial and Institutional Boilers and Process Heaters) affects new and existing boilers and process heaters at major sources of HAPs. All boilers and process heaters at this facility are existing, making them subject to this subpart. The Power Boiler will be classified as a light liquids unit (40 CFR 63.7499(u)), and the Bark Boiler is classified as a hybrid suspension/grate burner designed to burn wet biomass/bio-based fuel (40 CFR 63.7499(h)). The Package Boiler and all other boilers and process heaters are gas-1 fuels units (40 CFR 63.7499(l)).

Compliance Assurance Monitoring, 40 CFR 64

[Applicable]

Compliance Assurance Monitoring, as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source, which is required to obtain a Title V permit, if it meets all the following criteria.

- It is subject to an emission limit or standard for an applicable regulated air pollutant.
- It uses a control device to achieve compliance with the applicable emission limit or standard.
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant of 100 TPY.

The lime kiln, recovery furnace and bark boiler have potential PM emissions, prior to the control device, of more than 100 TPY. However, the lime kiln and recovery furnace are subject to an emission limit for PM under 40 CFR 63 Subpart MM, and are exempt from CAM per 40 CFR 64.2(b)(i). The bark boiler is subject to NSPS Subpart D, which was promulgated before 1990. The CAM plan for the monitoring of scrubber control parameters from the Title V renewal permit is incorporated into the specific conditions of this permit.

Chemical Accident Prevention Provisions, 40 CFR Part 68

[Not Applicable]

This facility does not store any regulated substance above the applicable threshold limits. More information on this federal program is available at the web site: <http://www.epa.gov/rmp/>.

Acid Rain, 40 CFR Part 72, 73, 75 and 76 (Permit Requirements) [Not Applicable]  
Currently the Valliant Mill does not sell electricity back to the grid. If the mill elects in the future to sell more than 25 MW of electricity back to the grid, potential applicable requirements will be reviewed.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subpart A and F Applicable]  
Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.

Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

This facility does not utilize any Class I & II substances.

## SECTION XII. TIER CLASSIFICATION AND PUBLIC REVIEW

### Tier Classification

This application has been determined to be Tier II based on the request for a construction permit to make a physical change that will result in a significant modification of a Part 70 source operating permit. An air quality construction permit is required under the PAL permit if any of the following conditions are met:

- The proposed project is considered a new or reconstructed source under NESHAP requirements (40 CFR, Part 63)
- The proposed project is considered a new, modified, or reconstructed source under NSPS requirements (40 CFR, Part 60), or
- The proposed project will result in an exceedance of any of the PAL levels.

The proposed project constitutes a modification of the No. 2 Digester System, No. 3 Digester system, and multiple effect evaporation system per 40 CFR Part 60, Subpart BBa. Following completing of the proposed project, the Mills's emissions will remain below the PAL levels as established Permit No. 2013-0465-TVR (M-7).

The applicant has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the land.

### State Review

The facility is located within 50 miles of the borders of Oklahoma and the states of Texas and Arkansas; both states will be were notified of the draft permit.

**Public Review**

The applicant will publish a “Notice of Filing a Tier II Application” and also a “Notice of Tier II Draft Permit” in a local newspaper in McCurtin County where the facility is located. The notices will state that the application and the draft permit will be available for public review at the facility or the DEQ office in Oklahoma City. The notices will also state that the application and the draft permit will be available for public review at a local public library. Information on all permit actions is available for review by the public in the Air Quality section of the DEQ Web page: [www.deq.state.ok.us/](http://www.deq.state.ok.us/).

**EPA review**

This permit will have public review and 45-day EPA review run concurrently.

Information on all permit actions is available for review by the public in the Air Quality section of the DEQ Web page: <http://www.deq.state.ok.us/>

**Fees Paid**

Fee of \$5,000 for a construction permit modification is required. A significant modification fee of \$6,000 has been received and \$1,000 will be refunded upon issuance of the permit.

**SECTION XI. SUMMARY**

The facility is constructed and operated as presented in the permit application. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance or enforcement issues concerning this facility that would prevent issuance of this permit. Issuance of the construction permit is recommended, contingent on public and EPA review.

**Table A-1. Proposed Monitoring and Emission Calculation Techniques-Key**

| Technique | Proposed Monitoring and Calculation Technique Description  |
|-----------|--|
| <b>A</b>  | Use of CEMS measurements, totalized monthly (lb/month) and converted to tons (ton/month).  |
| <b>B</b>  | Use of operating hours (hr/month) and approved emission factors (lb/hr) as appropriate converted to tons (ton/month).  |
| <b>C</b>  | Use of production (tons/month) and approved emission factor (lb of pollutant/ton) and converted to tons (ton/month).   |
| <b>D</b>  | Fuel usage records (gal/month, MMCF/month, etc.) and approved emission factor (lb/1000 gal, lb/MMCF, etc.) as appropriate and converted to tons (ton/month).   |
| <b>E</b>  | Use of operating hours (hr/month), conservatively estimated volumetric flowrate (scfm), and an actual emission rate determined by the emissions test program (gr/dscf, ppm, etc.) converted to lb pollutant/hr and tons (ton/month). |
| <b>F</b>  | Use of production (ton/month) or fuel usage (MMBtu/month) and actual emission rate (lb/throughput of pollutant) determined by the emission test program and converted to tons (ton/month).   |
| <b>G</b>  | Use of parametric monitoring device, actual emission rate (lb/ton) determined by the emissions test program, production (tons/hr) corrected to (lb/hr), and totalized monthly (ton/month).   |
| <b>H</b>  | Use of production (tons/month) and road emissions factor (lb/ton) [derived from constant truck weight and constant mileage] and converted to tons (ton/month).   |
| <b>I</b>  | Use of operating hours (hr/month) and an emission factor (lb/hr) [derived from wind velocity, friction velocity or mass transfer coefficient, and constant pile or pond size] converted to tons (ton/month).                         |
| <b>J</b>  | Fuel usage records (gal/month, MMCF/month, etc.), a U.S. EPA fuel-specific default emission factor, and a default high heating value of the fuel as defined in 40 CFR §98.33 as appropriate and converted to tons (ton/month).       |
| <b>K</b>  | Use of production records (tons/month) and emission factors derived in accordance with 40 CFR Part 98, Subpart AA.   |
| <b>L</b>  | Use of operating hours (hr/month), conservatively estimated volumetric flowrate (scfm), and an approved emission rate (gr/dscf, ppm, etc.) converted to lb pollutant/hr and tons (ton/month).  |
| <b>M</b>  | Use of operating hours (hr/month) and emission factors derived in accordance with 40 CFR Part 98, Subpart TT.  |
| <b>N</b>  | Use of established CCA sampling and monitoring plan approved by DEQ and production (tons of paper/month) converted to tons (ton/month).  |

**Table A-2. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                      | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter   |
|-----------|---|-------------------|-----------------------|-----------------------|--|--------------------|---------------------------|
| EUG A4    | No. 1 OCC Plant                         | VOC               | 1.80E-02              | lb/ADTP               | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database, VOC as Methanol | C                  | Tons of OCC pulp/month    |
| EUG A5    | No. 2 OCC Plant                         | VOC               | 1.80E-02              | lb/ADTP               | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database, VOC as Methanol | C                  | Tons of OCC pulp/month    |
| EUG A7    | No. 3 OCC Plant                         | VOC               | 1.80E-02              | lb/ADTP               | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database, VOC as Methanol | C                  | Tons of OCC pulp/month    |
| EUG A8    | OCC Lightweight Rejects Handling System | PM                | 3.45E-01              | lb/hour               | Emission factor derived from site-specific data                            | L                  | Hours/month               |
|           |   | PM <sub>10</sub>  | 3.45E-01              | lb/hour               | Emission factor derived from site-specific data                            | L                  | Hours/month               |
|           |   | PM <sub>2.5</sub> | 3.45E-01              | lb/hour               | Emission factor derived from site-specific data                            | L                  | Hours/month               |
| EUG B1    | No. 1 Brownstock Washing Area           | VOC               |                       | lb/BDTP               | Emission factor derived from site-specific test data                       | F                  | Tons of virgin pulp/month |
|           |   | TRS               | 8.53E-03              | lb/BDTP               | Emission factor derived from site-specific test data                       | C                  | Tons of virgin pulp/month |
|           |   | H <sub>2</sub> S  | 6.93E-03              | lb/BDTP               | Emission factor derived from site-specific test data                       | C                  | Tons of virgin pulp/month |
| EUG B2    | No. 2 Brownstock Washing Area           | VOC               |                       | lb/BDTP               | Emission factor derived from site-specific test data                       | F                  | Tons of virgin pulp/month |
|           |   | TRS               | 1.66E-02              | lb/BDTP               | Emission factor derived from site-specific test data                       | C                  | Tons of virgin pulp/month |
| EUG B2    | No. 2 Brownstock Washing Area           | H <sub>2</sub> S  | 1.15E-02              | lb/BDTP               | Emission factor derived from site-specific test data                       | C                  | Tons of virgin pulp/month |
| EUG B3    | No. 3 Brownstock Washing Area           | VOC               | 0.35                  | lb/ADUBTP             | NCASI TB 1020, VOC as 80% Alpha-pinene/20% Methanol                        | C                  | Tons of virgin pulp/month |
|           |   | TRS               | 5.70E-02              | lb/BDTP               | NCASI TB 973   | C                  | Tons of virgin pulp/month |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID    | Source Description  | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter   |
|--------------|---------------------|-------------------|-----------------------|-----------------------|--|--------------------|---------------------------|
| EUG C1/C2/C3 | No. 1 Paper Machine | PM                | 4.20E-02              | lb/ADTFP              | NCASI 2013 Pulp and Paper Criteria Pollutant Database                  | C                  | Tons of paper/month       |
|              |                     | PM <sub>10</sub>  | 9.64E-02              | lb/ADTFP              | NCASI 2013 Pulp and Paper Criteria Pollutant Database                  | C                  | Tons of paper/month       |
|              |                     | PM <sub>2.5</sub> | 8.47E-02              | lb/ADTFP              | NCASI 2013 Pulp and Paper Criteria Pollutant Database                  | C                  | Tons of paper/month       |
|              |                     | VOC               |                       | lb/BDTP               | Data developed from Clean Condensate Alternative (CCA) tracking system | N                  | Tons of paper/month       |
| EUG C4/C5/C6 | No. 2 Paper Machine | PM                | 4.20E-02              | lb/ADTFP              | NCASI 2013 Pulp and Paper Criteria Pollutant Database                  | C                  | Tons of paper/month       |
|              |                     | PM <sub>10</sub>  | 9.64E-02              | lb/ADTFP              | NCASI 2013 Pulp and Paper Criteria Pollutant Database                  | C                  | Tons of paper/month       |
|              |                     | PM <sub>2.5</sub> | 8.47E-02              | lb/ADTFP              | NCASI 2013 Pulp and Paper Criteria Pollutant Database                  | C                  | Tons of paper/month       |
|              |                     | VOC               |                       | lb/BDTP               | Data developed from CCA tracking system                                | N                  | Tons of paper/month       |
| EUG C7/C8/C9 | No. 3 Paper Machine | PM                | 4.20E-02              | lb/ADTFP              | NCASI 2013 Pulp and Paper Criteria Pollutant Database                  | C                  | Tons of paper/month       |
|              |                     | PM <sub>10</sub>  | 9.64E-02              | lb/ADTFP              | NCASI 2013 Pulp and Paper Criteria Pollutant Database                  | C                  | Tons of paper/month       |
|              |                     | PM <sub>2.5</sub> | 8.47E-02              | lb/ADTFP              | NCASI 2013 Pulp and Paper Criteria Pollutant Database                  | C                  | Tons of paper/month       |
|              |                     | VOC               |                       | lb/BDTP               | Data developed from CCA tracking system                                | N                  | Tons of paper/month       |
| EUG D1       | Bark Boiler (Bark)  | PM                |                       | lb/MMBtu              | Emission factor derived from site-specific test data                   | F                  | Fuel usage in MMBtu/month |
|              |                     | PM <sub>10</sub>  |                       | lb/MMBtu              | Emission factor derived from site-specific test data                   | F                  | Fuel usage in MMBtu/month |
|              |                     | PM <sub>2.5</sub> |                       | lb/MMBtu              | Emission factor derived from site-specific test data                   | F                  | Fuel usage in MMBtu/month |
|              |                     | NO <sub>x</sub>   |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                            | A                  | Mass rate derived by CEMS |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description     | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source  | Calculation Method | Key Operating Parameter   |
|-----------|------------------------|-------------------|-----------------------|-----------------------|---|--------------------|---------------------------|
| EUG<br>D1 | Bark Boiler (Bark)     | SO <sub>2</sub>   |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                        | CO                |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                        | VOC               | 5.42E-03              | lb/MMBtu              | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Propane | D                  | Fuel usage in MMBtu/month |
|           |                        | Pb                |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                        | HF                | 1.46E-04              | lb/MMBtu              | Engineering Stack Test  | F                  | Fuel usage in MMBtu/month |
|           | Bark Boiler (Fuel Oil) | PM                |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                        | PM <sub>10</sub>  |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                        | PM <sub>2.5</sub> |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                        | NO <sub>x</sub>   |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                        | SO <sub>2</sub>   |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                        | CO                |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                        | VOC               | 2.31E-03              | lb/MMBtu              | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Propane | D                  | Fuel usage in MMBtu/month |
|           |                        | Pb                | 1.02E-05              | lb/MMBtu              | NCASI 2013 Pulp and Paper Air Toxics Database                             | D                  | Fuel usage in MMBtu/month |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description           | Pollutant                      | Fixed Emission Factor | Emission Factor Units | Emission Factor Source  | Calculation Method | Key Operating Parameter   |
|-----------|------------------------------|--------------------------------|-----------------------|-----------------------|---|--------------------|---------------------------|
| EUG<br>D1 | Bark Boiler<br>(Fuel Oil)    | H <sub>2</sub> SO <sub>4</sub> | 2.50E-02              | lb/MMBtu              | NCASI SARA 313 Guidance, Annual sulfur content provided by the Mill       | D                  | Fuel usage in MMBtu/month |
|           |                              | HF                             | 1.42E-06              | lb/MMBtu              | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database                 | D                  | Fuel usage in MMBtu/month |
|           | Bark Boiler<br>(Natural Gas) | PM                             |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                              | PM <sub>10</sub>               |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                              | PM <sub>2.5</sub>              |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                              | NO <sub>x</sub>                |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                              | SO <sub>2</sub>                |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                              | CO                             |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                              | VOC                            | 6.71E-03              | lb/MMBtu              | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Propane | D                  | Fuel usage in MMBtu/month |
|           |                              | Pb                             | 5.00E-07              | lb/MMBtu              | NCASI 2013 Pulp and Paper Air Toxics Database                             | D                  | Fuel usage in MMBtu/month |

Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant

| Source ID | Source Description        | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source  | Calculation Method | Key Operating Parameter   |
|-----------|---------------------------|-------------------|-----------------------|-----------------------|---|--------------------|---------------------------|
| EUG D1    | Bark Boiler (OCC Rejects) | PM                |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                           | PM <sub>10</sub>  |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                           | PM <sub>2.5</sub> |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                           | NO <sub>x</sub>   |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                           | SO <sub>2</sub>   |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                           | CO                |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                           | VOC               | 5.42E-03              | lb/MMBtu              | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Propane | D                  | Fuel usage in MMBtu/month |
|           |                           | Pb                |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                           | HF                | 1.46E-04              | lb/MMBtu              | Engineering Stack Test  | F                  | Fuel usage in MMBtu/month |
|           | Bark Boiler (Sludge)      | PM                |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                           | PM <sub>10</sub>  |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                           | PM <sub>2.5</sub> |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description      | Pollutant                                    | Fixed Emission Factor   | Emission Factor Units | Emission Factor Source  | Calculation Method | Key Operating Parameter   |
|-----------|-------------------------|--|-------------------------|-----------------------|---|--------------------|---------------------------|
| EUG D1    | Bark Boiler (Sludge)    | NO <sub>x</sub>                              |                         | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                         | SO <sub>2</sub>                              |                         | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                         | CO   |                         | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                         | VOC  | 5.42E-03                | lb/MMBtu              | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Propane | D                  | Fuel usage in MMBtu/month |
|           |                         | Pb   |                         | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                         | HF   | 1.46E-04                | lb/MMBtu              | Engineering Stack Test  | F                  | Fuel usage in MMBtu/month |
| EUG D2    | Power Boiler (Fuel Oil) | PM   |                         | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                         | PM <sub>10</sub>                             |                         | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                         | PM <sub>2.5</sub>                            |                         | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                         | NO <sub>x</sub> [prior to CEMS installation] |                         | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                         | NO <sub>x</sub> [using CEMS]                 |                         | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|           |                         | SO <sub>2</sub>                              | 1.06*Sulfur Content (%) | lb/MMBtu              | AP-42, Table 1.3-1  | D                  | Fuel usage in MMBtu/month |
|           |                         | CO [prior to CEMS installation]              |                         | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                         | CO [using CEMS]                              |                         | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID       | Source Description         | Pollutant                                    | Fixed Emission Factor                       | Emission Factor Units | Emission Factor Source  | Calculation Method | Key Operating Parameter   |
|-----------------|----------------------------|--|---|-----------------------|---|--------------------|---------------------------|
| EUG D2          | Power Boiler (Fuel Oil)    | VOC  | 2.31E-03                                    | lb/MMBtu              | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Propane | D                  | Fuel usage in MMBtu/month |
|                 |                            | Pb   | 7.77E-06                                    | lb/MMBtu              | NCASI 2013 Pulp and Paper Air Toxics Database                             | D                  | Fuel usage in MMBtu/month |
|                 |                            | H <sub>2</sub> SO <sub>4</sub>               | 1.66E-02 * Sulfur Content (%)               | lb/MMBtu              | NCASI 2013 Pulp and Paper Air Toxics Database                             | D                  | Fuel usage in MMBtu/month |
|                 |                            | HF   | 1.42E-04                                    | lb/MMBtu              | NCASI 2013 Pulp and Paper Air Toxics Database                             | D                  | Fuel usage in MMBtu/month |
|                 | Power Boiler (Natural Gas) | PM   |   | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|                 |                            | PM <sub>10</sub>                             |   | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|                 |                            | PM <sub>2.5</sub>                            |   | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|                 |                            | NO <sub>x</sub> [prior to CEMS installation] |   | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|                 |                            | NO <sub>x</sub> [using CEMS]                 |   | lb/hr                 | Unit-Specific CEMS Data, direct measurement                               | A                  | Mass rate derived by CEMS |
|                 |                            | SO <sub>2</sub>                              | 6.00E-04                                    | lb/MMBtu              | AP-42, Table 1.4-2  | D                  | Fuel usage in MMBtu/month |
|                 |                            | CO [prior to CEMS installation]              |   | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
| CO [using CEMS] |                            | lb/hr  | Unit-Specific CEMS Data, direct measurement | A                     | Mass rate derived by CEMS   |                    |                           |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description         | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source  | Calculation Method | Key Operating Parameter   |
|-----------|----------------------------|-------------------|-----------------------|-----------------------|---|--------------------|---------------------------|
| EUG D2    | Power Boiler (Natural Gas) | VOC               | 6.71E-03              | lb/MMBtu              | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Propane | D                  | Fuel usage in MMBtu/month |
|           |                            | Pb                | 5.00E-07              | lb/MMBtu              | NCASI 2013 Pulp and Paper Air Toxics Database                             | D                  | Fuel usage in MMBtu/month |
| EUG D3    | Package Boiler             | PM                | 1.90E-03              | lb/MMBtu              | AP-42, Table 1.4-2  | D                  | Fuel usage in MMBtu/month |
|           |                            | PM <sub>10</sub>  | 7.60E-03              | lb/MMBtu              | AP-42, Table 1.4-2, Includes filterable and condensable particulate       | D                  | Fuel usage in MMBtu/month |
|           |                            | PM <sub>2.5</sub> | 7.60E-03              | lb/MMBtu              | AP-42, Table 1.4-2, Includes filterable and condensable particulate       | D                  | Fuel usage in MMBtu/month |
|           |                            | NO <sub>x</sub>   |                       | lb/MMBtu              | Emission factor derived from site-specific test data                      | F                  | Fuel usage in MMBtu/month |
|           |                            | SO <sub>2</sub>   | 6.00E-04              | lb/MMBtu              | AP-42, Table 1.4-2  | D                  | Fuel usage in MMBtu/month |
|           |                            | CO                | 8.40E-02              | lb/MMBtu              | AP-42, Table 1.4-1, Post-NSPS   | D                  | Fuel usage in MMBtu/month |
|           |                            | VOC               | 6.71E-03              | lb/MMBtu              | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Propane | D                  | Fuel usage in MMBtu/month |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description               | Pollutant                                    | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter   |
|-----------|----------------------------------|--|-----------------------|-----------------------|--|--------------------|---|
| EUG D3    | Package Boiler                   | Pb   | 5.00E-07              | lb/MMBtu              | NCASI 2013 Pulp and Paper Air Toxics Database, Converted from lb/MMScf to lb/MMBtu | D                  | Fuel usage in MMBtu/month   |
| EUG D6    | Recovery Furnace (Liquor Solids) | PM   |                       | lb/Ton of BLS         | Emission factor derived from site-specific test data                               | F                  | Tons of BLS/month   |
|           |                                  | PM <sub>10</sub>                             |                       | lb/Ton of BLS         | Emission factor derived from site-specific test data                               | F                  | Tons of BLS/month   |
|           |                                  | PM <sub>2.5</sub>                            |                       | lb/Ton of BLS         | Emission factor derived from site-specific test data                               | F                  | Tons of BLS/month   |
|           |                                  | NO <sub>x</sub> [prior to CEMS installation] |                       | lb/hr                 | Site-Specific Parametric Monitoring  | G                  | Throughput in tons/hr and lb/ton emissions factor as determined by CPMS |
|           |                                  | NO <sub>x</sub> [using CEMS]                 |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement  | A                  | Mass rate derived by CEMS   |
|           |                                  | SO <sub>2</sub>                              |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement  | A                  | Mass rate derived by CEMS   |
|           |                                  | CO [prior to CEMS installation]              |                       | lb/Ton of BLS         | Emission factor derived from site-specific test data                               | F                  | Tons of BLS/month   |
|           |                                  | CO [using CEMS]                              |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement  | A                  | Mass rate derived by CEMS   |
|           |                                  | VOC  |                       | lb/Ton of BLS         | Emission factor derived from site-specific test data                               | F                  | Tons of BLS/month   |
|           |                                  | Pb   |                       | lb/Ton of BLS         | Emission factor derived from site-specific test data                               | F                  | Tons of BLS/month   |
|           |                                  | H <sub>2</sub> SO <sub>4</sub>               |                       | lb/Ton of BLSu        | Emission factor derived from site-specific test data                               | F                  | Tons of BLS/month   |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description               | Pollutant                                    | Fixed Emission Factor                         | Emission Factor Units | Emission Factor Source  | Calculation Method | Key Operating Parameter                              |
|-----------|----------------------------------|--|---|-----------------------|---|--------------------|--|
| EUD D6    | Recovery Furnace (Liquor Solids) | TRS  |   | lb/hr                 | Unit-Specific CEMS Data, direct measurement   | A                  | Mass rate derived by CEMS                            |
|           |                                  | H <sub>2</sub> S                             |   | lb/hr                 | Unit-Specific CEMS Data, direct measurement   | A                  | Mass rate derived by CEMS                            |
|           | Recovery Furnace (Natural Gas)   | PM   | 1.90E-03                                      | lb/MMBtu              | AP-42, Table 1.4-2  | D                  | Fuel usage in MMBtu/month                            |
|           |                                  | PM <sub>10</sub>                             | 7.60E-03                                      | lb/MMBtu              | AP-42, Table 1.4-2  | D                  | Fuel usage in MMBtu/month                            |
|           |                                  | PM <sub>2.5</sub>                            | 7.60E-03                                      | lb/MMBtu              | AP-42, Table 1.4-2  | D                  | Fuel usage in MMBtu/month                            |
|           |                                  | NO <sub>x</sub> [prior to CEMS installation] |   | lb/hr                 | Site-Specific Parametric Monitoring, combined emissions factor with Liquor Solids firing                  | G                  | Throughput in tons/hr and lb/ton as measured by CPMS |
|           |                                  | NO <sub>x</sub> [using CEMS]                 |   | lb/hr                 | Unit-Specific CEMS Data, direct measurement   | A                  | Mass rate derived by CEMS                            |
|           |                                  | SO <sub>2</sub>                              |   | lb/hr                 | Unit-Specific CEMS Data, direct measurement   | A                  | Mass rate derived by CEMS                            |
|           |                                  | CO [prior to CEMS installation]              |   | lb/Ton of BLS         | Emission factor derived from site-specific test data, combined emissions factor with Liquor Solids firing | F                  | Tons of BLS/month                                    |
|           |                                  | CO [using CEMS]                              |   | lb/hr                 | Unit-Specific CEMS Data, direct measurement   | A                  | Mass rate derived by CEMS                            |
|           |                                  | VOC  | 6.71E-03                                      | lb/MMBtu              | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database VOC as Propane                                  | D                  | Fuel usage in MMBtu/month                            |
| Pb        | 5.00E-07                         | lb/MMBtu                                     | NCASI 2013 Pulp and Paper Air Toxics Database | D                     | Fuel usage in MMBtu/month   |                    |  |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source  | Calculation Method | Key Operating Parameter    |
|-----------|--------------------|-------------------|-----------------------|-----------------------|---|--------------------|----------------------------|
| EUG E2b   | Evaporator Sump    | VOC               | 4.16E-02              | lb/BDTP               | Site Specific data, VOC as Methanol, assumes that the sump operates only 1,420 hours per year | F                  | Tons of virgin pulp/month  |
|           |                    | TRS               | 1.26E-02              | lb/BDTP               | Site Specific data, assumes that the sump operates only 1,420 hours per year                  | F                  | Tons of virgin pulp/month  |
|           |                    | H <sub>2</sub> S  | 1.26E-02              | lb/BDTP               | Engineering judgment, equivalent to TRS   | F                  | Tons of virgin pulp/month  |
| EUG E5a   | No. 1 Lime Slaker  | PM                | 4.00E-04              | lb/Mgal               | Stack Test  | F                  | Mgal of green liquor/month |
|           |                    | PM <sub>10</sub>  | 4.00E-04              | lb/Mgal               | Stack Test  | F                  | Mgal of green liquor/month |
|           |                    | PM <sub>2.5</sub> | 4.00E-04              | lb/Mgal               | Stack Test  | F                  | Mgal of green liquor/month |
|           |                    | VOC               | 0.11                  | lb/Ton                | NCASI TB 1020; VOC as Methanol  | C                  | Tons of lime/month         |
|           |                    | TRS               | 2.39E-03              | lb/Ton                | NCASI 2013 Pulp and Paper Air Toxics Database   | C                  | Tons of lime/month         |
| EUG E5b   | No. 2 Lime Slaker  | PM                | 4.00E-04              | lb/Mgal               | Stack Test  | F                  | Mgal of green liquor/month |
|           |                    | PM <sub>10</sub>  | 4.00E-04              | lb/Mgal               | Stack Test  | F                  | Mgal of green liquor/month |
|           |                    | PM <sub>2.5</sub> | 4.00E-04              | lb/Mgal               | Stack Test  | F                  | Mgal of green liquor/month |
|           |                    | VOC               | 0.11                  | lb/Ton                | NCASI TB 1020; VOC as Methanol  | C                  | Tons of lime/month         |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description  | Pollutant                       | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter   |
|-----------|---------------------|---------------------------------|-----------------------|-----------------------|--|--------------------|---------------------------|
| EUG E5b   | No. 2 Lime Slaker   | TRS                             | 2.39E-03              | lb/Ton                | NCASI 2013 Pulp and Paper Air Toxic Database                               | C                  | Tons of lime/month        |
| EUG E6    | Causticizing System | VOC                             | 2.24E-03              | lb/Ton                | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Methanol | C                  | Tons of lime/month        |
|           |                     | TRS                             | 1.21E-03              | lb/Ton                | NCASI 2013 Pulp and Paper Air Toxic Database                               | C                  | Tons of lime/month        |
| EUG E7a   | Lime Kiln           | PM                              |                       | lb/Ton                | Emission factor derived from site-specific test data                       | F                  | Tons of lime/month        |
|           |                     | PM <sub>10</sub>                |                       | lb/Ton                | Emission factor derived from site-specific test data                       | F                  | Tons of lime/month        |
|           |                     | PM <sub>2.5</sub>               |                       | lb/Ton                | Emission factor derived from site-specific test data                       | F                  | Tons of lime/month        |
|           |                     | NO <sub>x</sub>                 |                       | lb/Ton                | Emission factor derived from site-specific test data                       | F                  | Tons of lime/month        |
|           |                     | SO <sub>2</sub>                 |                       | lb/Ton                | Emission factor derived from site-specific test data                       | F                  | Tons of lime/month        |
|           |                     | CO [prior to CEMS installation] |                       | lb/Ton                | Emission factor derived from site-specific test data                       | F                  | Tons of lime/month        |
|           |                     | CO [using CEMS]                 |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                                | A                  | Mass rate derived by CEMS |
|           |                     | VOC                             | 2.81E-02              | lb/Ton                | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Propane  | C                  | Tons of lime/month        |
|           |                     | Pb                              | 1.99E-05              | lb/Ton                | NCASI 2013 Pulp and Paper Air Toxics Database                              | C                  | Tons of lime/month        |
|           |                     | H <sub>2</sub> SO <sub>4</sub>  | 7.65E-05              | lb/Ton                | Emission factor derived from site-specific test data                       | F                  | Tons of lime/month        |
|           |                     | TRS                             |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                                | A                  | Mass rate derived by CEMS |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                   | Pollutant        | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter   |
|-----------|--------------------------------------|------------------|-----------------------|-----------------------|--|--------------------|---------------------------|
| EUG E7a   | Lime Kiln                            | H <sub>2</sub> S |                       | lb/hr                 | Unit-Specific CEMS Data, direct measurement                                | A                  | Mass rate derived by CEMS |
| EUG E8    | Tall Oil Plant                       | VOC              | 5.72E-03              | lb/lb Tall Oil        | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Methanol | C                  | Lbs of tall oil/month     |
|           |                                      | TRS              | 9.23E-05              | lb/lb Tall Oil        | NCASI 2013 Pulp and Paper Air Toxics Pollutant Database                    | C                  | Lbs of tall oil/month     |
|           |                                      | H <sub>2</sub> S | 8.50E-05              | lb/lb Tall Oil        | NCASI 2013 Pulp and Paper Air Pollutant Toxics Database                    | C                  | Lbs of tall oil/month     |
| EUG E9    | No. 1 Weak Black Liquor Storage Tank | VOC              | 1.82                  | lb/hour               | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Methanol | B                  | Hours/month               |
|           |                                      | TRS              | 1.05                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month               |
|           |                                      | H <sub>2</sub> S | 0.33                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month               |
|           | No. 2 Weak Black Liquor Storage Tank | VOC              | 1.82                  | lb/hour               | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database VOC as Methanol  | B                  | Hours/month               |
|           |                                      | TRS              | 1.05                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month               |
|           |                                      | H <sub>2</sub> S | 3.33E-01              | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month               |
|           | "Super Bowl" Temporary Storage Area  | VOC              | 74.03                 | lb/hour               | NCASI Developed Emission Factor based on pond area, VOC as methanol        | I                  | Hours/month               |
|           |                                      | TRS              | 0.20                  | lb/hour               | NCASI Developed Emission Factor based on pond area                         | I                  | Hours/month               |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                  | Pollutant        | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter |
|-----------|-------------------------------------|------------------|-----------------------|-----------------------|--|--------------------|-------------------------|
| EUG E9    | “Super Bowl” Temporary Storage Area | H <sub>2</sub> S | 0.17                  | lb/hour               | NCASI Developed Emission Factor based on pond area; VOC as Methanol        | I                  | Hours/month             |
|           | Boilout Tank                        | VOC              | 1.82                  | lb/hour               | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Methanol | B                  | Hours/month             |
|           |                                     | TRS              | 1.05                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month             |
|           |                                     | H <sub>2</sub> S | 0.33                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month             |
|           | 73% Black Liquor Storage Tank       | VOC              | 0.29                  | lb/hour               | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Methanol | B                  | Hours/month             |
|           |                                     | TRS              | 0.30                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month             |
| EUG E9    | 73% Black Liquor Storage Tank       | H <sub>2</sub> S | 7.88E-02              | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month             |
|           | 51% Black Liquor Storage Tank       | VOC              | 0.29                  | lb/hour               | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Methanol | B                  | Hours/month             |
|           |                                     | TRS              | 0.30                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month             |
|           |                                     | H <sub>2</sub> S | 7.88E-02              | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month             |
|           | 80% Liquor Storage Tank             | VOC              | 0.29                  | lb/hour               | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database; VOC as Methanol | B                  | Hours/month             |
|           |                                     | TRS              | 0.30                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                              | B                  | Hours/month             |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID         | Source Description                        | Pollutant         | Fixed Emission Factor | Emission Factor Units   | Emission Factor Source                        | Calculation Method  | Key Operating Parameter  |
|-------------------|---|-------------------|-----------------------|-------------------------|---|---------------------|--------------------------|
| EUG E9            | 80% Liquor Storage Tank                   | H <sub>2</sub> S  | 7.88E-02              | lb/hour                 | NCASI 2013 Pulp and Paper Air Toxics Database | B                   | Hours/month              |
| EUG F1            | Hog Fuel Pile                             | PM                | 3.52                  | tons/yr                 | AP-42 Chapter 13.2.5, Fixed Emissions         | I                   | Pile size and dimensions |
|                   |   | PM <sub>10</sub>  | 0.01                  | tons/yr                 | AP-42 Chapter 13.2.5, Fixed Emissions         | I                   | Pile size and dimensions |
|                   |   | PM <sub>2.5</sub> | 7.04E-4               | tons/yr                 | AP-42 Chapter 13.2.5, Fixed Emissions         | I                   | Pile size and dimensions |
|                   |   | VOC               | 7.23E-04              | lb/Green ton            | NCASI factor, expressed as alpha-pinene       | C                   | Tons of bark/month       |
|                   | Hog Fuel Handling                         | PM                | 2.85E-04              | lb/ton                  | AP-42, Chapter 13.2.4.3                       | C                   | Tons of bark/month       |
|                   |   | PM <sub>10</sub>  | 1.35E-04              | lb/ton                  | AP-42, Chapter 13.2.4.3                       | C                   | Tons of bark/month       |
|                   |   | PM <sub>2.5</sub> | 2.04E-05              | lb/ton                  | AP-42, Chapter 13.2.4.3                       | C                   | Tons of bark/month       |
|                   | Fiber Source Piles                        | PM                | 14.2                  | tons/yr                 | AP-42 Chapter 13.2.5, Fixed Emissions         | I                   | Pile size and dimensions |
|                   |   | PM <sub>10</sub>  | 0.04                  | tons/yr                 | AP-42 Chapter 13.2.5, Fixed Emissions         | I                   | Pile size and dimensions |
|                   |   | PM <sub>2.5</sub> | 0.01                  | tons/yr                 | AP-42 Chapter 13.2.5, Fixed Emissions         | I                   | Pile size and dimensions |
|                   |   | VOC               | 7.23E-04              | lb/Green ton            | NCASI factor, expressed as alpha-pinene       | C                   | Tons of chips/month      |
|                   | Fiber Source Handling                     | PM                | 3.03E-04              | lb/ton                  | AP-42, Chapter 13.2.4.3                       | C                   | Tons of chips/month      |
|                   |   | PM <sub>10</sub>  | 1.43E-04              | lb/ton                  | AP-42, Chapter 13.2.4.3                       | C                   | Tons of chips/month      |
| PM <sub>2.5</sub> |   | 2.17E-05          | lb/ton                | AP-42, Chapter 13.2.4.3 | C   | Tons of chips/month |                          |
| EUG F2            | Plant Traffic Road Emissions (Log Trucks) | PM                | 2.25E-2               | lb/ton                  | AP-42, Chapters 13.2.1 and 13.2.2             | H                   | Tons of material/month   |
|                   |   | PM <sub>10</sub>  | 4.49E-3               | lb/ton                  | AP-42, Chapters 13.2.1 and 13.2.2             | H                   | Tons of material/month   |
|                   |   | PM <sub>2.5</sub> | 1.10E-3               | lb/ton                  | AP-42, Chapters 13.2.1 and 13.2.2             | H                   | Tons of material/month   |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID                                   | Source Description                             | Pollutant         | Fixed Emission Factor | Emission Factor Units             | Emission Factor Source                  | Calculation Method     | Key Operating Parameter |
|---|--|-------------------|-----------------------|-----------------------------------|---|------------------------|-------------------------|
| EUG F2                                      | Plant Traffic Road Emissions (Chip Trucks)     | PM                | 3.31E-2               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   |  | PM <sub>10</sub>  | 6.62E-3               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   |  | PM <sub>2.5</sub> | 1.63E-3               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   | Plant Traffic Road Emissions (Bark Trucks)     | PM                | 7.24E-2               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   |  | PM <sub>10</sub>  | 1.45E-2               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   |  | PM <sub>2.5</sub> | 3.56E-3               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   | Plant Traffic Road Emissions (Chemical Trucks) | PM                | 0.18                  | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   |  | PM <sub>10</sub>  | 3.62E-2               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   |  | PM <sub>2.5</sub> | 8.89E-3               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   | Plant Traffic Road Emissions (OCC Trucks)      | PM                | 0.12                  | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   |  | PM <sub>10</sub>  | 2.49E-2               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   |  | PM <sub>2.5</sub> | 6.12E-3               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   | Plant Traffic Road Emissions (Petcoke Trucks)  | PM                | 0.18                  | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   |  | PM <sub>10</sub>  | 3.62E-2               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
|   |  | PM <sub>2.5</sub> | 8.89E-3               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2       | H                      | Tons of material/month  |
| Plant Traffic Road Emissions (Paper Trucks) | PM   | 7.11E-2           | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                                       | Tons of material/month |                         |
|   | PM <sub>10</sub>                               | 1.42E-2           | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                                       | Tons of material/month |                         |
|   | PM <sub>2.5</sub>                              | 3.49E-3           | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                                       | Tons of material/month |                         |
| EUG F3a                                     | Wastewater Treatment System                    | VOC               |                       | lb/BDTP                           | CCA Site tracking system                | N                      | Tons of pulp/month      |
|   |  | TRS               | 0.18                  | lb/BDTP                           | Site Specific Data                      | C                      | Tons of pulp/month      |
|   |  | H <sub>2</sub> S  | 0.18                  | lb/BDTP                           | Engineering judgment, equivalent to TRS | C                      | Tons of pulp/month      |
| EUG F3b                                     | Wastewater Pipeline                            | H <sub>2</sub> S  | 5.50E-03              | lb/MMgal                          | Site specific testing                   | F                      | MMgal wastewater/month  |
|   |  | TRS               | 5.50E-03              | lb/MMgal                          | Site Specific Testing                   | F                      | MMgal wastewater/month  |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                    | Pollutant                      | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter             |
|-----------|---------------------------------------|--------------------------------|-----------------------|-----------------------|--|--------------------|-------------------------------------|
| EUG F4a   | NCG Thermal Oxidizer                  | PM                             | 5.21                  | lb/hour               | Stack Test   | E                  | Hours/month                         |
|           |                                       | PM <sub>10</sub>               | 5.21                  | lb/hour               | Stack Test, Assume PM = PM10 = PM2.5                           | E                  | Hours/month                         |
|           |                                       | PM <sub>2.5</sub>              | 5.21                  | lb/hour               | Stack Test, Assume PM = PM10 = PM2.5                           | E                  | Hours/month                         |
|           |                                       | NO <sub>x</sub>                | 24.32                 | lb/hour               | Stack Test   | E                  | Hours/month                         |
|           |                                       | SO <sub>2</sub>                | 1.00E-02              | lb/hour               | Stack Test   | E                  | Hours/month                         |
|           |                                       | CO                             | 0.21                  | lb/hour               | Stack Test   | E                  | Hours/month                         |
|           |                                       | VOC                            | 0.00                  | lb/hour               | Stack Test (Non-Detect)  | E                  | Hours/month                         |
|           |                                       | H <sub>2</sub> SO <sub>4</sub> | 4.90E-03              | lb/ADTUBP             | NCASI 2013 Pulp and Paper Criteria Air Pollutant Database      | C                  | Tons of virgin pulp/month           |
|           |                                       | TRS                            | 3.00E-02              | lb/hour               | Stack Test   | E                  | Hours/month                         |
|           |                                       | H <sub>2</sub> S               | 3.00E-02              | lb/hour               | Engineering judgment, equivalent to TRS.                       | E                  | Hours/month                         |
| EUG F4b   | NCG Collection System (Chip Bin Vent) | VOC                            | 0.63                  | lb/eODT               | NCASI 2013 Pulp and Paper Air Toxics Database; VOC as Methanol | B                  | Hours/month converted to eODT/month |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                    | Pollutant        | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter                |
|-----------|---------------------------------------|------------------|-----------------------|-----------------------|--|--------------------|--|
|           | NCG Collection System (Chip Bin Vent) | TRS              | 5.8                   | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           |                                       | H <sub>2</sub> S | 0.6                   | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           | NCG Collection System (Dilute Vent)   | VOC              | 2.43                  | lb/eADUBTP            | NCASI 2013 Pulp and Paper Air Toxics Database; VOC as Methanol | B                  | Hours/month converted to eADUBTP/month |
|           |                                       | TRS              | 5.8                   | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           | NCG Collection System (Evap 1 Vent)   | VOC              | 1.63                  | lb/eADUBTP            | NCASI 2013 Pulp and Paper Air Toxics Database; VOC as Methanol | B                  | Hours/month converted to eADUBTP/month |
|           |                                       | TRS              | 213.8                 | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           |                                       | H <sub>2</sub> S | 61.29                 | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           | NCG Collection System (Evap 2 Vent)   | VOC              | 0.56                  | lb/eADUBTP            | NCASI 2013 Pulp and Paper Air Toxics Database; VOC as Methanol | B                  | Hours/month converted to eADUBTP/month |
|           |                                       | TRS              | 29.16                 | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           |                                       | H <sub>2</sub> S | 8.36                  | lb/vent hr            | Stack Test   | E                  | Hours/month                            |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                       | Pollutant        | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter                |
|-----------|--|------------------|-----------------------|-----------------------|--|--------------------|--|
| EUG F4b   | NCG Collection System (K1 Dig Vent)      | VOC              | 0.65                  | lb/eADUBTP            | NCASI 2013 Pulp and Paper Air Toxics Database; VOC as Methanol | B                  | Hours/month converted to eADUBTP/month |
|           |  | TRS              | 111.76                | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           |  | H <sub>2</sub> S | 32.04                 | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           | NCG Collection System (K2 Dig Vent)      | VOC              | 0.53                  | lb/eADUBTP            | NCASI 2013 Pulp and Paper Air Toxics Database; VOC as Methanol | B                  | Hours/month converted to eADUBTP/month |
|           |  | TRS              | 92.32                 | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           |  | H <sub>2</sub> S | 26.47                 | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           | NCG Collection System (K3-NSSC Dig Vent) | VOC              | 0.19                  | lb/eADUBTP            | NCASI 2013 Pulp and Paper Air Toxics Database; VOC as Methanol | B                  | Hours/month converted to eADUBTP/month |
|           |  | TRS              | 38.86                 | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           |  | H <sub>2</sub> S | 11.14                 | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           | NCG Collection System (Main Vent)        | VOC              | 4.20                  | lb/eADUBTP            | NCASI 2013 Pulp and Paper Air Toxics Database; VOC as Methanol | B                  | Hours/month converted to eADUBTP/month |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description  | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter                |
|-----------|---|-------------------|-----------------------|-----------------------|--|--------------------|--|
|           | NCG Collection System (Main Vent)                                       | TRS               | 485.90                | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           |   | H <sub>2</sub> S  | 139.30                | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           | NCG Collection System (SOG Vent)  | VOC               | 8.22                  | lb/eADUBTP            | NCASI 2013 Pulp and Paper Air Toxics Database; VOC as Methanol | B                  | Hours/month converted to eADUBTP/month |
|           |   | TRS               | 530.00                | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
|           |   | H <sub>2</sub> S  | 101.00                | lb/vent hr            | Stack Test   | E                  | Hours/month                            |
| EUG F5    | Solid Waste Disposal Facility Operations (Sludge Press Material Trucks) | PM                | 0.65                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2                              | H                  | Tons of solid waste/month              |
|           |   | PM <sub>10</sub>  | 0.16                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2                              | H                  | Tons of solid waste/month              |
|           |   | PM <sub>2.5</sub> | 2.01E-2               | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2                              | H                  | Tons of solid waste/month              |
|           | Solid Waste Disposal Facility Operations (Lime Trucks)                  | PM                | 0.55                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2                              | H                  | Tons of solid waste/month              |
|           |   | PM <sub>10</sub>  | 0.13                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2                              | H                  | Tons of solid waste/month              |
|           |   | PM <sub>2.5</sub> | 1.69E-2               | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2                              | H                  | Tons of solid waste/month              |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description  | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source            | Calculation Method | Key Operating Parameter   |
|-----------|---|-------------------|-----------------------|-----------------------|-----------------------------------|--------------------|---------------------------|
| EUG F5    | Solid Waste Disposal Facility Operations (OCC Light Rejects Trucks) | PM                | 3.08                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           |   | PM <sub>10</sub>  | 0.76                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           |   | PM <sub>2.5</sub> | 9.28E-2               | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           | Solid Waste Disposal Facility Operations (OCC Heavy Rejects Trucks) | PM                | 5.02                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           |   | PM <sub>10</sub>  | 1.24                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           |   | PM <sub>2.5</sub> | 0.15                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           | Solid Waste Disposal Facility Operations (Ditch Cleaning Trucks)    | PM                | 9.34E-2               | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           |   | PM <sub>10</sub>  | 2.40E-2               | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           |   | PM <sub>2.5</sub> | 2.40E-3               | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           | Solid Waste Disposal Facility Operations (General Trash Trucks)     | PM                | 6.51                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           |   | PM <sub>10</sub>  | 1.60                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           |   | PM <sub>2.5</sub> | 0.20                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           | Solid Waste Disposal Facility Operations (Woodyard Waste Trucks)    | PM                | 2.59                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           |   | PM <sub>10</sub>  | 0.64                  | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |
|           |   | PM <sub>2.5</sub> | 7.82E-2               | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                  | Tons of solid waste/month |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID         | Source Description   | Pollutant         | Fixed Emission Factor | Emission Factor Units             | Emission Factor Source            | Calculation Method        | Key Operating Parameter   |
|-------------------|--|-------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------|---------------------------|
| EUG F5            | Solid Waste Disposal Facility Operations (Demo Debris Trucks)      | PM                | 1.65                  | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2 | H                         | Tons of solid waste/month |
|                   |  | PM <sub>10</sub>  | 0.41                  | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2 | H                         | Tons of solid waste/month |
|                   |  | PM <sub>2.5</sub> | 5.01E-2               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2 | H                         | Tons of solid waste/month |
|                   | Solid Waste Disposal Facility Operations (Bark Ash Trucks)         | PM                | 0.23                  | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2 | H                         | Tons of solid waste/month |
|                   |  | PM <sub>10</sub>  | 6.00E-2               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2 | H                         | Tons of solid waste/month |
|                   |  | PM <sub>2.5</sub> | 6.00E-3               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2 | H                         | Tons of solid waste/month |
|                   | Solid Waste Disposal Facility Operations (Secondary Sludge Trucks) | PM                | 8.79E-2               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2 | H                         | Tons of solid waste/month |
|                   |  | PM <sub>10</sub>  | 2.26E-2               | lb/ton                            | AP-42, Chapters 13.2.1 and 13.2.2 | H                         | Tons of solid waste/month |
| PM <sub>2.5</sub> |  | 2.26E-3           | lb/ton                | AP-42, Chapters 13.2.1 and 13.2.2 | H                                 | Tons of solid waste/month |                           |
| EUG F7            | Wood Chip Screening and Conditioning Unit - No. 1 Line             | PM                | 1.59E-02              | lb/BDT                            | NCASI TB 1020                     | C                         | Tons of chips/month       |
|                   |  | PM <sub>10</sub>  | 1.59E-02              | lb/BDT                            | NCASI TB 1020                     | C                         | Tons of chips/month       |
|                   |  | PM <sub>2.5</sub> | 1.59E-02              | lb/BDT                            | NCASI TB 1020                     | C                         | Tons of chips/month       |
|                   |  | VOC               | 1.33E-02              | lb/BDT                            | Stack Test; VOC as Alpha-pinene   | F                         | Tons of chips/month       |
| EUG F9            | Wood Chip Screening and Conditioning Unit - No. 3 Line             | PM                | 1.59E-02              | lb/BDT                            | NCASI TB 1020                     | C                         | Tons of chips/month       |
|                   |  | PM <sub>10</sub>  | 1.59E-02              | lb/BDT                            | NCASI TB 1020                     | C                         | Tons of chips/month       |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                                     | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source             | Calculation Method | Key Operating Parameter |
|-----------|--|-------------------|-----------------------|-----------------------|------------------------------------|--------------------|-------------------------|
| EUG F9    | Wood Chip Screening and Conditioning Unit - No. 3 Line | VOC               | 1.33E-02              | lb/BDT                | Stack Test, VOC as Alpha-pinene    | F                  | Tons of chips/month     |
| EUG F13   | Petcoke Handling System No. 1                          | PM                | 0.10                  | lb/hour               | Engineering Evaluation             | C                  | Hours/month             |
|           |  | PM <sub>10</sub>  | 0.10                  | lb/hour               | Engineering Evaluation             | C                  | Hours/month             |
|           |  | PM <sub>2.5</sub> | 0.10                  | lb/hour               | Engineering Evaluation             | C                  | Hours/month             |
| EUG F14-1 | Emergency Turbine Generator                            | PM                | 0.80                  | lb/hour               | AP-42, Table 3.3-1 , Table 3.4-2   | B                  | Hours/month             |
|           |  | PM <sub>10</sub>  | 0.66                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |  | PM <sub>2.5</sub> | 0.64                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2    | B                  | Hours/month             |
|           |  | NO <sub>x</sub>   | 9.30                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |  | SO <sub>2</sub>   | 0.62                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |  | CO                | 2.00                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |  | VOC               | 0.92                  | lb/hour               | AP-42, Table 3.3-1; VOC as Propane | B                  | Hours/month             |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                      | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source             | Calculation Method | Key Operating Parameter |
|-----------|---|-------------------|-----------------------|-----------------------|------------------------------------|--------------------|-------------------------|
| EUG F14-2 | Emergency Generator at Recovery Furnace | PM                | 1.02                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2    | B                  | Hours/month             |
|           |   | PM <sub>10</sub>  | 0.84                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |   | PM <sub>2.5</sub> | 0.81                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2    | B                  | Hours/month             |
|           |   | NO <sub>x</sub>   | 11.84                 | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |   | SO <sub>2</sub>   | 0.78                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |   | CO                | 2.55                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |   | VOC               | 0.96                  | lb/hour               | AP-42, Table 3.3-1; VOC as Propane | B                  | Hours/month             |
| EUG F14-3 | Emergency Generator at Pipeline         | PM                | 0.80                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2    | B                  | Hours/month             |
|           |   | PM <sub>10</sub>  | 0.66                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |   | PM <sub>2.5</sub> | 0.64                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2    | B                  | Hours/month             |
|           |   | NO <sub>x</sub>   | 9.30                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |   | SO <sub>2</sub>   | 0.62                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |   | CO                | 2.00                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |   | VOC               | 0.75                  | lb/hour               | AP-42, Table 3.3-1; VOC as Propane | B                  | Hours/month             |
| EUG F14-4 | Emergency Generator at Receiving Basin  | PM                | 1.09                  | lb/hour               | AP-42, Table 3.4-2                 | B                  | Hours/month             |
|           |   | PM <sub>10</sub>  | 1.00                  | lb/hour               | AP-42, Table 3.4-2                 | B                  | Hours/month             |
|           |   | PM <sub>2.5</sub> | 0.97                  | lb/hour               | AP-42, Table 3.4-2                 | B                  | Hours/month             |
|           |   | NO <sub>x</sub>   | 60.00                 | lb/hour               | AP-42, Table 3.4-1                 | B                  | Hours/month             |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                     | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source             | Calculation Method | Key Operating Parameter |
|-----------|--|-------------------|-----------------------|-----------------------|------------------------------------|--------------------|-------------------------|
| EUG F14-4 | Emergency Generator at Receiving Basin | SO <sub>2</sub>   | 3.03E-02              | lb/hour               | AP-42, Table 3.4-1                 | B                  | Hours/month             |
|           |  | CO                | 13.75                 | lb/hour               | AP-42, Table 3.4-1                 | B                  | Hours/month             |
|           |  | VOC               | 1.60                  | lb/hour               | AP-42, Table 3.4-1; VOC as Propane | B                  | Hours/month             |
| EUG F14-5 | #1 Emergency Fire Pump                 | PM                | 0.94                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2    | B                  | Hours/month             |
|           |  | PM <sub>10</sub>  | 0.77                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |  | PM <sub>2.5</sub> | 0.74                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2    | B                  | Hours/month             |
|           |  | NO <sub>x</sub>   | 10.85                 | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |  | SO <sub>2</sub>   | 0.72                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |  | CO                | 2.34                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description        | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source             | Calculation Method | Key Operating Parameter |
|-----------|---------------------------|-------------------|-----------------------|-----------------------|------------------------------------|--------------------|-------------------------|
| EUG F14-5 | #1<br>Emergency Fire Pump | VOC               | 0.88                  | lb/hour               | AP-42, Table 3.3-1; VOC as Propane | B                  | Hours/month             |
| EUG F14-6 | #2<br>Emergency Fire Pump | PM                | 0.94                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2    | B                  | Hours/month             |
|           |                           | PM <sub>10</sub>  | 0.77                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |                           | PM <sub>2.5</sub> | 0.74                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2    | B                  | Hours/month             |
|           |                           | NO <sub>x</sub>   | 10.85                 | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |                           | SO <sub>2</sub>   | 0.72                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |                           | CO                | 2.34                  | lb/hour               | AP-42, Table 3.3-1                 | B                  | Hours/month             |
|           |                           | VOC               | 0.88                  | lb/hour               | AP-42, Table 3.3-1; VOC as Propane | B                  | Hours/month             |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description            | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter |
|-----------|-------------------------------|-------------------|-----------------------|-----------------------|--|--------------------|-------------------------|
| EUG F14-7 | West Gate Emergency Generator | PM                | 1.15E-02              | lb/hour               | San Joaquin Valley Unified Air Pollution Control District Guidelines - Emergency Internal Combustion Engines                 | B                  | Hours/month             |
|           |                               | PM <sub>10</sub>  | 1.15E-02              | lb/hour               | San Joaquin Valley Unified Air Pollution Control District Guidelines - Emergency Internal Combustion Engines                 | B                  | Hours/month             |
|           |                               | PM <sub>2.5</sub> | 1.15E-02              | lb/hour               | San Joaquin Valley Unified Air Pollution Control District Guidelines - Emergency Internal Combustion Engines                 | B                  | Hours/month             |
|           |                               | NO <sub>x</sub>   | 0.45                  | lb/hour               | San Joaquin Valley Unified Air Pollution Control District Guidelines - Emergency Internal Combustion Engines                 | B                  | Hours/month             |
|           |                               | SO <sub>2</sub>   | 8.05E-04              | lb/hour               | San Joaquin Valley Unified Air Pollution Control District Guidelines - Emergency Internal Combustion Engines                 | B                  | Hours/month             |
|           |                               | CO                | 0.42                  | lb/hour               | San Joaquin Valley Unified Air Pollution Control District Guidelines - Emergency Internal Combustion Engines                 | B                  | Hours/month             |
|           |                               | VOC               | 3.52E-02              | lb/hour               | San Joaquin Valley Unified Air Pollution Control District Guidelines - Emergency Internal Combustion Engines; VOC as Propane | B                  | Hours/month             |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID  | Source Description                             | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter |
|------------|--|-------------------|-----------------------|-----------------------|--|--------------------|-------------------------|
| EUG F14-8  | Emergency Lime Kiln Auxiliary Engine "Tractor" | PM                | 0.95                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2                                | B                  | Hours/month             |
|            |  | PM <sub>10</sub>  | 0.78                  | lb/hour               | AP-42, Table 3.3-1   | B                  | Hours/month             |
|            |  | PM <sub>2.5</sub> | 0.75                  | lb/hour               | AP-42, Table 3.3-1, Table 3.4-2                                | B                  | Hours/month             |
|            |  | NO <sub>x</sub>   | 10.94                 | lb/hour               | AP-42, Table 3.3-1   | B                  | Hours/month             |
|            |  | SO <sub>2</sub>   | 0.72                  | lb/hour               | AP-42, Table 3.3-1   | B                  | Hours/month             |
|            |  | CO                | 2.36                  | lb/hour               | AP-42, Table 3.3-1   | B                  | Hours/month             |
|            |  | VOC               | 0.89                  | lb/hour               | AP-42, Table 3.3-1; VOC as Propane                             | B                  | Hours/month             |
| EUG F14-9  | Deutz D914L06 Stormwater Pump                  | PM                | 0.35                  | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | PM <sub>10</sub>  | 0.35                  | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | PM <sub>2.5</sub> | 0.35                  | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | NO <sub>x</sub>   | 3.91                  | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | SO <sub>2</sub>   | 7.00E-02              | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | CO                | 1.35                  | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | VOC               | 0.16                  | lb/hour               | Historical Representative Emission Factor, expressed a propane | B                  | Hours/month             |
| EUG F14-10 | Deutz D914L06 Stormwater Pump Woodyard         | PM                | 0.35                  | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | PM <sub>10</sub>  | 0.35                  | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | PM <sub>2.5</sub> | 0.35                  | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | NO <sub>x</sub>   | 3.91                  | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | SO <sub>2</sub>   | 7.00E-02              | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | CO                | 1.35                  | lb/hour               | Historical Representative Emission Factor                      | B                  | Hours/month             |
|            |  | VOC               | 0.16                  | lb/hour               | Historical Representative Emission Factor; VOC as Propane      | B                  | Hours/month             |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID  | Source Description                    | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source                                  | Calculation Method | Key Operating Parameter |
|------------|---------------------------------------|-------------------|-----------------------|-----------------------|---|--------------------|-------------------------|
| EUG F14-11 | Emergency Power House Air Compressor  | PM                | 0.69                  | lb/hour               | AP-42, Table 3.4-2                                      | B                  | Hours/month             |
|            |                                       | PM <sub>10</sub>  | 0.64                  | lb/hour               | AP-42, Table 3.4-2                                      | B                  | Hours/month             |
|            |                                       | PM <sub>2.5</sub> | 0.62                  | lb/hour               | AP-42, Table 3.4-2                                      | B                  | Hours/month             |
|            |                                       | NO <sub>x</sub>   | 38.40                 | lb/hour               | AP-42, Table 3.4-1                                      | B                  | Hours/month             |
|            |                                       | SO <sub>2</sub>   | 1.94E-02              | lb/hour               | AP-42, Table 3.4-1                                      | B                  | Hours/month             |
|            |                                       | CO                | 8.80                  | lb/hour               | AP-42, Table 3.4-1                                      | B                  | Hours/month             |
|            |                                       | VOC               | 1.03                  | lb/hour               | AP-42, Table 3.4-1; VOC as Propane                      | B                  | Hours/month             |
| EUG F14-12 | Security Building Emergency Generator | PM                | 4.67E-02              | lb/hour               | AP-42, Table 3.2-3                                      | B                  | Hours/month             |
|            |                                       | PM <sub>10</sub>  | 0.10                  | lb/hour               | AP-42, Table 3.2-3                                      | B                  | Hours/month             |
|            |                                       | PM <sub>2.5</sub> | 0.10                  | lb/hour               | AP-42, Table 3.2-3                                      | B                  | Hours/month             |
|            |                                       | NO <sub>x</sub>   | 2.38                  | lb/hour               | Manufacturer Provided Emissions Factor                  | B                  | Hours/month             |
|            |                                       | SO <sub>2</sub>   | 2.89E-03              | lb/hour               | Manufacturer Provided Emissions Factor                  | B                  | Hours/month             |
|            |                                       | CO                | 4.76                  | lb/hour               | Manufacturer Provided Emissions Factor                  | B                  | Hours/month             |
|            |                                       | VOC               | 1.15                  | lb/hour               | Manufacturer Provided Emissions Factor ; VOC as Propane | B                  | Hours/month             |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                        | Pollutant        | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter |
|-----------|---|------------------|-----------------------|-----------------------|--|--------------------|-------------------------|
|           | Saltcake Mix Tank (HBL 51%)               | VOC              | 8.05E-03              | lb/ton                | NCASI 2013 Pulp and Paper Criteria Pollutant Database; VOC as Methanol | C                  | Tons of BLS/month       |
|           | Saltcake Mix Tank (HBL 68%)               | VOC              | 8.05E-03              | lb/ton                | NCASI 2013 Pulp and Paper Criteria Pollutant Database; VOC as Methanol | C                  | Tons of BLS/month       |
|           | Saltcake Mix Tank (HBL 80%)               | VOC              | 8.05E-03              | lb/ton                | NCASI 2013 Pulp and Paper Criteria Pollutant Database; VOC as Methanol | C                  | Tons of BLS/month       |
|           | No. 1 Black Liquor Soap Storage Tank Weak | VOC              | 1.82                  | lb/hour               | NCASI 2013 Pulp and Paper Criteria Pollutant Database; VOC as Methanol | B                  | Hours/month             |
|           |   | TRS              | 1.05                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                          | B                  | Hours/month             |
|           |   | H <sub>2</sub> S | 0.33                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                          | B                  | Hours/month             |
|           | No. 2 Black Liquor Soap Storage Tank Weak | VOC              | 1.82                  | lb/hour               | NCASI 2013 Pulp and Paper Criteria Pollutant Database; VOC as Methanol | B                  | Hours/month             |
|           |   | TRS              | 1.05                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                          | B                  | Hours/month             |
|           |   | H <sub>2</sub> S | 0.33                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                          | B                  | Hours/month             |
|           | No. 3 Black Liquor Soap Storage Tank Weak | VOC              | 1.82                  | lb/hour               | NCASI 2013 Pulp and Paper Criteria Pollutant Database; VOC as Methanol | B                  | Hours/month             |
|           |   | TRS              | 1.05                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                          | B                  | Hours/month             |
|           |   | H <sub>2</sub> S | 0.33                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                          | B                  | Hours/month             |
|           | No. 4 Black Liquor Soap Storage Tank Weak | VOC              | 1.82                  | lb/hour               | NCASI 2013 Pulp and Paper Criteria Pollutant Database; VOC as Methanol | B                  | Hours/month             |
|           |   | TRS              | 1.05                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                          | B                  | Hours/month             |
|           |   | H <sub>2</sub> S | 0.33                  | lb/hour               | NCASI 2013 Pulp and Paper Air Toxics Database                          | B                  | Hours/month             |

Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant

| Source ID | Source Description                              | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source   | Calculation Method | Key Operating Parameter              |
|-----------|---|-------------------|-----------------------|-----------------------|--|--------------------|--------------------------------------|
|           | Cement Pond (Temporary Liquor Storage)          | VOC               | 40.12                 | lb/hour               | NCASI Developed Emission Factor based on pond area; VOC as methanol                            | I                  | Hours/month                          |
|           |   | TRS               | 0.11                  | lb/hour               | NCASI Developed Emission Factor based on pond area   | I                  | Hours/month                          |
|           |   | H <sub>2</sub> S  | 9.13E-2               | lb/hour               | NCASI Developed Emission Factor based on pond area   | I                  | Hours/month                          |
|           | Smelt Dissolving Tank Vents                     | PM                | 0.15                  | lb/eTBLS              | NCASI 2013 Pulp and Paper Air Toxics Database  | B                  | Hours/month converted to eTBLS/month |
|           |   | PM <sub>10</sub>  | 0.16                  | lb/eTBLS              | NCASI 2013 Pulp and Paper Air Toxics Database, Includes filterable and condensable particulate | B                  | Hours/month converted to eTBLS/month |
|           |   | PM <sub>2.5</sub> | 0.16                  | lb/eTBLS              | NCASI 2013 Pulp and Paper Air Toxics Database, Includes filterable and condensable particulate | B                  | Hours/month converted to eTBLS/month |
|           |   | SO <sub>2</sub>   | 6.00E-03              | lb/eTBLS              | NCASI 2013 Pulp and Paper Air Toxics Database  | B                  | Hours/month converted to eTBLS/month |
|           |   | Pb                | 6.90E-07              | lb/eTBLS              | NCASI 2013 Pulp and Paper Air Toxics Database  | B                  | Hours/month converted to eTBLS/month |
|           |   | VOC               | 9.28E-3               | lb/eTBLS              | NCASI 2013 Pulp and Paper Air Toxics Database ; VOC as Methanol                                | B                  | Hours/month converted to eTBLS/month |
|           |   | TRS               | 3.16                  | lb/vent hr            | Stack Test   | E                  | Hours/month                          |
|           |   | H <sub>2</sub> S  | 2.13                  | lb/vent hr            | Stack Test   | E                  | Hours/month                          |
|           | Recovery Boiler Precipitator Salt Cake Day Tank | VOC               | 8.05E-03              | lb/ton                | NCASI 2013 Pulp and Paper Criteria Pollutant Database; VOC as Methanol                         | C                  | Tons of BLS/month                    |
|           | Dump Tank Salt Cake Day Tank                    | VOC               | 8.05E-03              | lb/ton                | NCASI 2013 Pulp and Paper Criteria Pollutant; VOC as Methanol                                  | C                  | Tons of BLS/month                    |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                           | Pollutant | Fixed Emission Factor | Emission Factor Units | Emission Factor Source             | Calculation Method | Key Operating Parameter                              |
|-----------|--|-----------|-----------------------|-----------------------|------------------------------------|--------------------|--|
|           | Administration Building Boiler               |           |                       |                       |                                    |                    | Accounted for under other Natural Gas fired boilers. |
|           | Personnel Building Boiler                    |           |                       |                       |                                    |                    | Accounted for under other Natural Gas fired boilers. |
|           | Gasoline Storage Tank (Working Loss)         | VOC       | 1.40E-02              | lb/gal                | AP-42, Chapter 7.1; VOC as Propane | D                  | Fuel storage in gal/month                            |
|           | Gasoline Storage Tank (Standing Loss)        | VOC       | 5.25E-02              | lb/hour               | AP-42, Chapter 7.1; VOC as Propane | B                  | Hours/month  |
|           | No. 1 Fuel Oil Storage Tank (Working Loss)   | VOC       | 2.71E-07              | lb/gal                | AP-42, Chapter 7.1; VOC as Propane | D                  | Fuel storage in gal/month                            |
|           | No. 1 Fuel Oil Storage Tank (Standing Loss)  | VOC       | 5.57E-04              | lb/hour               | AP-42, Chapter 7.1; VOC as Propane | B                  | Hours/month  |
|           | Diesel Chipyard Storage Tank (Working Loss)  | VOC       | 2.79E-05              | lb/gal                | AP-42, Chapter 7.1; VOC as Propane | D                  | Fuel storage in gal/month                            |
|           | Diesel Chipyard Storage Tank (Standing Loss) | VOC       | 7.35E-04              | lb/hour               | AP-42, Chapter 7.1; VOC as Propane | B                  | Hours/month  |
|           | Diesel Shipping Storage Tank (Working Loss)  | VOC       | 2.79E-05              | lb/gal                | AP-42, Chapter 7.1; VOC as Propane | D                  | Fuel storage in gal/month                            |
|           | Diesel Shipping Storage Tank (Standing Loss) | VOC       | 1.23E-04              | lb/hour               | AP-42, Chapter 7.1; VOC as Propane | B                  | Hours/month  |
|           | Diesel Landfill Storage Tank (Working Loss)  | VOC       | 2.79E-05              | lb/gal                | AP-42, Chapter 7.1; VOC as Propane | D                  | Fuel storage in gal/month                            |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Source ID | Source Description                           | Pollutant | Fixed Emission Factor | Emission Factor Units | Emission Factor Source                  | Calculation Method | Key Operating Parameter |
|-----------|--|-----------|-----------------------|-----------------------|---|--------------------|-------------------------|
|           | Diesel Landfill Storage Tank (Standing Loss) | VOC       | 1.52E-04              | lb/hour               | AP-42, Chapter 7.1; VOC as Propane      | B                  | Hours/month             |
|           | No. 1 Filtrate Tank                          | VOC       | 2.00E-03              | lb/hour               | Engineering Evaluation; VOC as Methanol | B                  | Hours/month             |
|           | No. 2 Filtrate Tank                          | VOC       | 0.00                  | lb/hour               | Engineering Evaluation; VOC as Methanol | B                  | Hours/month             |
|           | No. 2 Primary Rejects Tank                   | VOC       | 3.00E-03              | lb/hour               | Engineering Evaluation; VOC as Methanol | B                  | Hours/month             |
|           | No. 1 Screen Accepts Tank                    | VOC       | 1.61                  | lb/hour               | Engineering Evaluation; VOC as Methanol | B                  | Hours/month             |
|           | No. 1 Refined Rejects Tank                   | VOC       | 1.60E-02              | lb/hour               | Engineering Evaluation; VOC as Methanol | B                  | Hours/month             |
|           | No. 2 Secondary Rejects Tank                 | VOC       | 2.00E-03              | lb/hour               | Engineering Evaluation; VOC as Methanol | B                  | Hours/month             |
|           | No. 1 Screen Rejects Tank                    | VOC       | 0.13                  | lb/hour               | Engineering Evaluation; VOC as Methanol | B                  | Hours/month             |

**Table A-2 [Continued]. Proposed Emission Calculation Technique Specified by Emission Unit and Pollutant**

| Valliant Chips, Inc. |                    |                   |                       |                       |                                    |                    |                         |
|----------------------|--------------------|-------------------|-----------------------|-----------------------|------------------------------------|--------------------|-------------------------|
| Source ID            | Source Description | Pollutant         | Fixed Emission Factor | Emission Factor Units | Emission Factor Source             | Calculation Method | Key Operating Parameter |
| N/A                  | Debarking Drum     | PM                | 1.20E-3               | lb/Green Ton          | NCASI TB 424, Table 28             | C                  | Tons of logs/month      |
|                      |                    | PM <sub>10</sub>  | 1.20E-3               | lb/Green Ton          | NCASI TB 424, Table 28             | C                  | Tons of logs/month      |
|                      |                    | PM <sub>2.5</sub> | 1.20E-3               | lb/Green Ton          | NCASI TB 424, Table 28             | C                  | Tons of logs/month      |
|                      |                    | VOC               | 7.91E-03              | lb/ODT                | Permit Factor; VOC as Alpha-pinene | C                  | Tons of logs/month      |
| N/A                  | Chipper            | PM                | 1.75E-03              | lb/ Green Ton         | Permit Factor                      | C                  | Tons of chips/month     |
|                      |                    | PM <sub>10</sub>  | 1.75E-03              | lb/ Green Ton         | Permit Factor                      | C                  | Tons of chips/month     |
|                      |                    | PM <sub>2.5</sub> | 1.75E-03              | lb/ Green Ton         | Permit Factor                      | C                  | Tons of chips/month     |
| N/A                  | Chipper            | VOC               | 0.10                  | lb/ODT                | Permit Factor, VOC as Alpha-pinene | C                  | Tons of chips/month     |
| N/A                  | Bark Hog           | PM                | 1.00E-03              | lb/ Green Ton         | Permit Factor                      | C                  | Tons of bark/month      |
|                      |                    | PM <sub>10</sub>  | 1.00E-03              | lb/ Green Ton         | Permit Factor                      | C                  | Tons of bark/month      |
|                      |                    | PM <sub>2.5</sub> | 1.00E-03              | lb/ Green Ton         | Permit Factor                      | C                  | Tons of bark/month      |
|                      |                    | VOC               | 7.91E-03              | lb/ODT                | Permit Factor, VOC as Alpha-Pinene | C                  | Tons of bark/month      |
| N/A                  | Plant Traffic      | PM                | 2.33E-2               | lb/ton                | AP-42, Chapters 13.4.1 and 13.2.2  | H                  | Tons of material/month  |
|                      |                    | PM <sub>10</sub>  | 4.67E-3               | lb/ton                | AP-42, Chapters 13.4.1 and 13.2.2  | H                  | Tons of material/month  |
|                      |                    | PM <sub>2.5</sub> | 1.15E-3               | lb/ton                | AP-42, Chapters 13.4.1 and 13.2.2  | H                  | Tons of material/month  |

Table A-3. Federal and State of Oklahoma Air Quality Regulation Applicability Determination Table

| Regulatory Citation   | Citation Type | Regulatory Requirement   | Unit ID(s)   | Unit Description(s)             | Emissions Limit or Standard <sup>(a)</sup>   |
|-----------------------|---------------|--|--------------|---------------------------------|--|
| OAC 252:100-8-6(a)(1) | Oklahoma      | <p><b>Permit Content - Emission Limitations and Standards:</b> This subsection identifies what applicable emission limitations and standards should be included in DEQ issued Part 70 permits. The emission limits listed were identified as Best Available Control Technology (BACT) during historic PSD permit evaluations. These lb/hr emission limits are identified in the Title V Operating Permit No. 2013-0465-TV. The Mill will continue to be subject to these emission limits under a PAL permit.</p> | EUG A4/A5/A7 | OCC Plants                      | VOC - 25.1 lb/hr as methanol   |
|                       |               |  | EUG B1       | No. 1 Brownstock Washing System | VOC - 26.6 lb/hr as 80% alpha-pinene/20% methanol.   |
|                       |               |  | EUG B2       | No. 2 Brownstock Washing System | VOC - 19.2 lb/hr as 80% alpha-pinene/20% methanol  |
|                       |               |  | EUG B3       | No. 3 Brownstock Washing System | VOC - 14.8 lb/hr as 80% alpha-pinene/20% methanol  |
|                       |               |  | EUG C1/C2/C3 | No. 1 Paper Machine             | VOC - 311 lb/hr as methanol  |
|                       |               |  | EUG C4/C5/C6 | No. 2 Paper Machine             | VOC - 147 lb/hr as methanol  |
|                       |               |  | EUG C7/C8/C9 | No. 3 Paper Machine             | VOC - 168 lb/hr as methanol  |
|                       |               |  | EUG D1       | Bark Boiler                     | PM/PM <sub>10</sub> - 90.0 lb/hr<br>CO - 6,627 lb/hr<br>SO <sub>2</sub> - 720 lb/hr<br>NO <sub>x</sub> - 270 lb/hr<br>VOC - 51.2 lb/hr as propane<br>Lead - 0.30 lb/hr |
|                       |               |  | EUG D3       | Package Boiler                  | NO <sub>x</sub> - 21.7 lb/hr<br>SO <sub>2</sub> - 12.6 lb/hr<br>VOC - 17.2 lb/hr as propane  |
|                       |               |  | EUG D6       | Recovery Furnace                | VOC - 41.3 lb/hr as propane<br>H <sub>2</sub> SO <sub>4</sub> - 3.06 lb/hr   |
|                       |               |  | EUG E6       | Causticizing System             | VOC - 61.9 lb/hr as methanol   |
| EUG E7a               | Lime Kiln     | VOC - 12.0 lb/hr as propane<br>H <sub>2</sub> SO <sub>4</sub> - 0.50 lb/hr   |              |                                 |  |

Table A-3 [Continued]. Federal and State of Oklahoma Air Quality Regulation Applicability Determination Table

| Regulatory Citation | Citation Type                         | Regulatory Requirement   | Unit ID(s) | Unit Description(s)                            | Emissions Limit or Standard <sup>(a)</sup>  |
|---------------------|---------------------------------------|--|------------|--|---|
| OAC 252:100-19-4    | Oklahoma                              | <b>Control of Emission of Particulate Matter - Fuel-Burning Units:</b> This subsection establishes particulate matter emissions limitations for fuel-burning equipment (i.e., a combustion device used to convert the combustion of fuel into useable energy). | EUG D2     | Power Boiler                                   | 171 lb/hr   |
|                     |                                       |  | EUG D3     | Package Boiler                                 | E = 1.0428080X <sup>-0.238561</sup> , where X is the maximum heat input in MMBtu/hr |
|                     |                                       |  | EUG E7a    | Lime Kiln                                      |   |
|                     |                                       |  | EUG F14-1  | Emergency Turbine Generator                    |   |
|                     |                                       |  | EUG F14-2  | Emergency Generator at Recovery Furnace        |   |
|                     |                                       |  | EUG F14-3  | Emergency Generator at Pipeline                |   |
|                     |                                       |  | EUG F14-4  | Emergency Generator at Receiving Basin         |   |
|                     |                                       |  | EUG F14-5  | #1 Emergency Fire Pump                         |   |
|                     |                                       |  | EUG F14-6  | #2 Emergency Fire Pump                         |   |
|                     |                                       |  | EUG F14-7  | West Gate Emergency Generator                  |   |
|                     |                                       |  | EUG F14-8  | Emergency Lime Kiln Auxiliary Engine "Tractor" |   |
|                     |                                       |  | EUG F14-9  | Deutz D914L06 Stormwater Pump                  |   |
|                     |                                       |  | EUG F14-10 | Deutz D914L06 Stormwater Pump Woodyard         |   |
|                     |                                       |  | EUG F14-11 | Emergency Power House Air Compressor           |   |
| EUG F14-12          | Security Building Emergency Generator |  |            |  |   |
| EUG D6              | Recovery Furnace                      | E = 1.60X <sup>-0.30103</sup> , where X is the maximum heat input in MMBtu/hr  |            |  |   |

**Table A-3 [Continued]. Federal and State of Oklahoma Air Quality Regulation Applicability Determination Table**

| Regulatory Citation | Citation Type  | Regulatory Requirement   | Unit ID(s)   | Unit Description(s)   | Emissions Limit or Standard <sup>(a)</sup>   |
|---------------------|--|--|--------------|---|--|
| OAC 252:100-19-10   | Oklahoma   | <b>Control of Emission of Particulate Matter - Indirectly Fired Wood-Fuel Burning Units:</b> This subsection provides particulate matter emission limits for indirectly fired wood-fuel burning units regardless of size and installation date.                              | EUG D1       | Bark Boiler   | 0.5 lb/MMBtu   |
| OAC 252:100-19-12   | Oklahoma   | <b>Control of Emission of Particulate Matter - Directly Fired Fuel-Burning Units and Industrial Processes:</b> This subsection establishes particulate matter emission limits for any directly fired fuel-burning unit or from any emission points in an industrial process. | EUG A8       | OCC Lightweight Rejects Handling System   | If P <= 30 Tons/hour: E = 4.10P <sup>0.67</sup><br>If P > 30 Tons/hour: E = (55.00P <sup>0.11</sup> ) - 40, where P equals the process weight rate in tons/hr. |
|                     |  |  | EUG C1/C2/C3 | No. 1 Paper Machine   |  |
|                     |  |  | EUG C4/C5/C6 | No. 2 Paper Machine   |  |
|                     |  |  | EUG C7/C8/C9 | No. 3 Paper Machine   |  |
|                     |  |  | EUG E4b      | Smelt Dissolving Tank   |  |
|                     |  |  | EUG E5a      | No. 1 Lime Slaker   |  |
|                     |  |  | EUG E5b      | No. 2 Lime Slaker   |  |
|                     |  |  | EUG E7a      | Lime Kiln   |  |
|                     |  |  | EUG F4a      | LVHC/HVLC NCG Collection System (Controlled Digester and Evaporator System Sources) |  |
| EUG F7              | Wood Chip Screening and Conditioning Unit - No. 1 Line |  |              |   |  |
| OAC 252:100-19-12   | Oklahoma   | <b>Control of Emission of Particulate Matter - Directly Fired Fuel-Burning Units and Industrial Processes:</b> This subsection establishes particulate matter emission limits for any directly fired fuel-burning unit or from any emission points in an industrial process. | EUG F9       | Wood Chip Screening and Conditioning Unit - No. 3 Line                              | If P <= 30 Tons/hour: E = 4.10P <sup>0.67</sup><br>If P > 30 Tons/hour: E = (55.00P <sup>0.11</sup> ) - 40, where P equals the process weight rate in tons/hr. |
|                     |  |  | EUG F13      | Petcoke Handling System No. 1   |  |

Table A-3 [Continued]. Federal and State of Oklahoma Air Quality Regulation Applicability Determination Table

| Regulatory Citation | Citation Type  | Regulatory Requirement   | Unit ID(s)   | Unit Description(s)   | Emissions Limit or Standard <sup>(a)</sup>              |
|---------------------|----------------|--|--------------|---|---|
| OAC 252:100-25-3    | Oklahoma       | <b>Visible Emissions and Particulates:</b> This subchapter limits visible emissions and particulate matter from the operation of any air contaminant source. | EUG A8       | OCC Lightweight Rejects Handling  | 20% Opacity, Short-term (six-minutes) cannot exceed 60% |
|                     |                |  | EUG C1/C2/C3 | No. 1 Paper Machine   |   |
|                     |                |  | EUG C4/C5/C6 | No. 2 Paper Machine   |   |
|                     |                |  | EUG C7/C8/C9 | No. 3 Paper Machine   |   |
|                     |                |  | EUG E4b      | Smelt Dissolving Tank   |   |
|                     |                |  | EUG E5a      | No. 1 Lime Slaker   |   |
|                     |                |  | EUG E5b      | No. 2 Lime Slaker   |   |
|                     |                |  | EUG E7a      | Lime Kiln   |   |
|                     |                |  | EUG F4a      | LVHC/HVLC NCG Collection System (Controlled Digester and Evaporator System Sources) |   |
|                     |                |  | EUG F7       | Wood Chip Screening and Conditioning Unit - No. 1 Line                              |   |
|                     |                |  | EUG F9       | Wood Chip Screening and Conditioning Unit - No. 3 Line                              |   |
|                     |                |  | EUG F13      | Petcoke Handling System No. 1   |   |
| EUG D2              | Power Boiler   |  |              |   |   |
| EUG D3              | Package Boiler |  |              |   |   |

Table A-3 [Continued]. Federal and State of Oklahoma Air Quality Regulation Applicability Determination Table

| Regulatory Citation | Citation Type | Regulatory Requirement   | Unit ID(s) | Unit Description(s)   | Emissions Limit or Standard <sup>(a)</sup>   |
|---------------------|---------------|--|------------|---|--|
| OAC 252:100-31-15   | Oklahoma      | <b>Control of Emission of Sulfur compounds - Requirements for Existing Kraft Pulp Mills:</b> This subsection provides TRS emission limits for Kraft pulp mill sources constructed on or before July 1, 1972.   | EUG E7a    | Lime Kiln   | 40 ppmvd @ 10% O <sub>2</sub> as H <sub>2</sub> S or 6.48 lb/hr  |
|                     |               |  | EUG F4a    | LVHC/HVLC NCG Collection System (Controlled Digester and Evaporator System Sources) | Efficiently incinerate gases or 5 ppmvd as H <sub>2</sub> S  |
| OAC 252:100-31-25   | Oklahoma      | <b>Control of Emission of Sulfur Compounds - Requirements for New Fuel-Burning Equipment:</b> This subsection applies to fuel-burning equipment that was not constructed on or before July 1, 1972 or that is modified after July 1, 1972 and provides emission limitations, monitoring requirements, etc. | EUG D1     | Bark Boiler   | Gaseous Fuel: 0.2 lb/MMBtu<br>Liquid Fuel: 0.8 lb/MMBtu<br>Solid Fuel: 1.2 lb/MMBtu<br>Combination of Fuels: $0.2X + 0.8Y + 1.2Z/(X + Y + Z)$ where X equals the percentage heat input from gaseous fuel, Y equals the percentage heat input from liquid fuels, and Z equals the percentage heat input from solid fuels    |
|                     |               |  | EUG D3     | Package Boiler  |  |
|                     |               |  | EUG D6     | Recovery Furnace  |  |
| OAC 252:100-33      | Oklahoma      | <b>Control of Emission of Nitrogen Oxides:</b> This subchapter limits emissions of nitrogen oxides from stationary sources.  | EUG D1     | Bark Boiler   | Gaseous Fuel: 0.20 lb/MMBtu<br>Liquid Fuel: 0.30 lb/MMBtu<br>Solid Fuel: 0.70 lb/MMBtu<br>Combination of Fuels: $0.2X + 0.3Y + 0.7Z/(X + Y + Z)$ where X equals the percentage heat input from gaseous fuel, Y equals the percentage heat input from liquid fuels, and Z equals the percentage heat input from solid fuels |

Table A-3 [Continued]. Federal and State of Oklahoma Air Quality Regulation Applicability Determination Table

| Regulatory Citation       | Citation Type | Regulatory Requirement   | Unit ID(s) | Unit Description(s)             | Emissions Limit or Standard <sup>(a)</sup>  |
|---------------------------|---------------|--|------------|---------------------------------|---|
| 40 CFR Part 51 Subpart P  | Federal       | <b>Regional Haze/Best Available Retrofit Technology (BART):</b> BART applies to emission units that: (1) belong to one (1) of 26 source categories; (2) have the potential to emit 250 tons per year or more of a visibility impairing pollutant; and (3) were built or reconstructed with a start-up date between August 7, 1962 and August 7, 1977.            | EUG D1     | Bark Boiler                     | The Mill applied for a BART Waiver on December 1, 2006. U.S. EPA approved the Regional Haze SIP on December 28, 2011. The Mill must comply with the applicable requirements and final emission limits on December 28, 2016. |
|                           |               |  | EUG D2     | Power Boiler                    |   |
|                           |               |  | EUG D3     | Package Boiler                  |   |
|                           |               |  | EUG E7a    | Lime Kiln                       |   |
| 40 CFR Part 60 Subpart D  | Federal       | <b>Standards of Performance for Fossil Fuel-Fired Steam Generators:</b> This requirement applies to boilers with a rated heat input greater than 250 MMBtu/hr whose construction, reconstruction, or modification commenced after August 17, 1971.   | EUG D1     | Bark Boiler                     | Filterable PM: 0.1 lb/MMBtu<br>SO <sub>2</sub> : 0.8 lb/MMBtu (Fuel Oil and Bark Firing)<br>NO <sub>x</sub> : 0.2 lb/MMBtu (Natural Gas Firing)<br>0.3 lb/MMBtu (Fuel Oil and Bark Firing)                                  |
| 40 CFR Part 60 Subpart BB | Federal       | <b>Standards of Performance for Kraft Pulp Mills:</b> This requirement affects digester systems, brown stock washer systems, multiple-effect evaporators, recovery furnaces, smelt dissolving tanks, lime kilns, and condensate stripper systems in kraft pulp mills for which construction, modification, or reconstruction commenced after September 24, 1976. | EUG B2     | No. 2 Brownstock Washing System | TRS - No limit, economic evaluation justified no control  |
|                           |               |  | EUG D6     | Recovery Furnace                | PM - 0.044 gr/dscf @ 8% O <sub>2</sub><br>Opacity - 35%, 6-minute avg.<br>TRS - 5 ppmvd @ 8% O <sub>2</sub>   |
|                           |               |  | EUG E2a    | Spent Liquor Concentration      | TRS - 5 ppmvd @ 10% O <sub>2</sub>  |



**PERMIT TO CONSTRUCT  
AIR POLLUTION CONTROL FACILITY  
SPECIFIC CONDITIONS**

**International Paper  
IP Valliant Paper Mill**

**Permit No. 2013-0465-C (M-10)**

The permittee is authorized to construct in conformity with the specifications submitted to Air Quality on November 15, 2017. The Evaluation Memorandum dated February 28, 2018, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing construction or operations under this permit constitutes acceptance of, and consent to the conditions contained herein.

**I. Equipment and Applicable Requirements**

**A. EUG FW – Facility-Wide**

1. The permittee is authorized to operate the sources under this permit continuously (24 hours per day, every day of the year). [OAC 252:100-8-6(a)]
2. All terms and conditions in previous PSD construction permits issued for the IP Valliant Mill that are required to be retained by regulations governing the PAL development process are incorporated in the specific conditions of this permit. Under the PAL permit, those limits taken in previous permits to avoid major NSR permitting requirements [including production limits and emission limits, both annual and short-term limits derived therefrom] are no longer applicable and have been removed from the specific conditions.  
[40 CFR 51.166(w)(1)(ii)(c)]

Upon issuance of this permit, any previously existing project emissions tracking requirements established to satisfy the source obligation provisions of OAC 252:100-8-36.2 and 40 CFR §51.166(r) are no longer in effect, and have been removed.

For all authority to construct granted in all previous construction permits, permittee agrees that one of the following apply:

- a. The construction is complete, or;
- b. IP has determined the proposed construction will not be done, and has agreed that such authority shall be relinquished.

Based on the above circumstances, all previous construction permits for the IP Valliant Mill are henceforth cancelled. [OAC 252:100-8-38]

3. The permittee is authorized to implement changes that qualify as Insignificant Activities and as limited under OAC 252:100-8-4 and OAC 252:100-8-7-2. Such changes shall not

require a construction permit but shall comply with other applicable requirements of this permit. [OAC 252:100-8-4(a)(1)]

4. Except for the Bark Boiler and Recovery Furnace, which are subject to the opacity limits specified in Specific Conditions I-N-2.a and I-Q-6b, all other sources of PM emissions as listed in the specific EUG conditions, shall comply with the opacity limitation specified in Standard Condition A(4) of Section XIX. [OAC 252:100-25]
5. The requirements of 40 CFR 63.447 are satisfied by compliance with the Clean Condensate Alternative Compliance Plan originally submitted on January 18, 2006, as approved by ODEQ on March 27, 2006, and the revised plan approved by DEQ on June 5, 2014. Permittee shall comply with the requirements of the currently approved plan. [40 CFR 63.447]
6. All monthly averages identified in these specific conditions are based on Valliant Mill calendar months unless otherwise approved by DEQ. The mill operating day is defined as 7:00 AM to 7:00 AM, except when used for determination of compliance with regulations which specify a different definition. [OAC 252:100-8-6(a)]
7. The facility is subject to the Oklahoma ambient air standard for hydrogen sulfide OAC 252:100-31-7(b) and shall maintain appropriate documentation to show compliance. [OAC 252:100-31-7(b)]
8. Permittee shall use emission factors and calculation methods listed in Appendix A of this permit, Tables A-1 and A-2 to track emissions related to the PAL and determine compliance. New emission factors may be added or existing emission factors may be adjusted as agreed to by DEQ in the event that new sources are added or existing sources are modified in accordance with the provisions of this permit. Emission factors are allowed to be updated to account for the results of new emission tests and factors based on test results averaged over the most recent three (3) or more individual test programs as approved by DEQ. Table A-3 in Appendix A lists specific state and federal regulatory applicable requirements, emission limitations, and regulatory citations. Permittee shall comply with all listed requirements in Table A-3. [OAC 252:100-8-6(a)]
9. The Valliant Chips facility is collocated with the IP Valliant Mill. Permit modifications for either facility shall consider the total combined emissions from both facilities to determine applicable requirements. The Valliant Chips facility shall comply with the PAL recordkeeping and reporting requirements applicable to it that are included in the Specific Conditions of this permit. Valliant Chips shall provide to IP Valliant Mill records of Valliant Chips facility emissions calculated using the fixed emission factors in Appendix A of this permit as discussed in Condition No. I(A)(8), and shall do so in a timely manner to permit the IP Valliant Mill to perform the mandated demonstration of compliance with PALs as listed in the Specific Conditions of this permit. Valliant Chips and IP Valliant Mill are jointly and severally responsible for compliance with the PAL provisions of this permit [OAC 252:100-8-6(a)]

10. The Valliant Mill applied for and received approval for potential BART eligible sources under the Regional Haze Rule to be limited to avoid BART applicability. Emission limits to avoid BART for potentially BART affected sources are incorporated into the emission unit specific conditions of this permit.

11. **Plantwide Applicability Limitations [PAL]**

[OAC 252:100-8-38]

- a. Emissions shall remain below the PALs listed below in tons per rolling 12-month period. Compliance with the PAL shall be determined within 30 days of the end of each month based on sum of emissions for the prior 12 month period. During the first year after the PAL effective date, compliance determinations shall only include months subsequent to the effective date of the PAL. PAL compliance calculations shall include emissions from the collocated Valliant Chips facility, determined using the fixed emission factors listed for that facility in Appendix A, Tables A-1 and A-2.

| Pollutant            | PM <sup>(b)</sup> | PM <sub>10</sub> <sup>(c)</sup> | PM <sub>2.5</sub> <sup>(c)</sup> | NO <sub>x</sub> <sup>(d)</sup> | SO <sub>2</sub> <sup>(e)</sup> | VOC <sup>(f)</sup> |
|----------------------|-------------------|---------------------------------|----------------------------------|--------------------------------|--------------------------------|--------------------|
| Limit <sup>(a)</sup> | 778.9             | 836.0                           | 788.0                            | 4,753.6                        | 2,555.8                        | 3,012.0            |

| Pollutant | CO <sup>(g)</sup> | Pb <sup>(h)</sup> | TRS <sup>(i)</sup> | H <sub>2</sub> S <sup>(j)</sup> | SAM <sup>(k)</sup> | HF <sup>(l)</sup> |
|-----------|-------------------|-------------------|--------------------|---------------------------------|--------------------|-------------------|
| Limit     | 4,653.4           | 1.2               | 179.8              | 147.3                           | 46.6               | 3.5               |

- (a) Tons / rolling 12-month period, based on calendar month.
- (b) PM is based on Filterable Only
- (c) PM<sub>10</sub> and PM<sub>2.5</sub> are based on filterable and condensable
- (d) NO<sub>x</sub> - Oxides of nitrogen (NO/NO<sub>2</sub>)
- (e) SO<sub>2</sub> - Sulfur Dioxide
- (f) VOC - Volatile Organic Compounds expressed on an as compound basis
- (g) CO - Carbon Monoxide
- (h) Pb - Lead
- (i) TRS – Total Reduced Sulfur
- (j) H<sub>2</sub>S – Hydrogen Sulfide
- (k) SAM – Sulfuric Acid Mist (H<sub>2</sub>SO<sub>4</sub>)
- (l) HF – Fluorides as Hydrogen Fluorides

- b. The Mill agrees that all limits, restrictions and requirements contained in this permit were taken voluntarily to establish PALs for each air pollutant identified in Condition No. I(A)(11) of this permit. So long as the facility complies with the provisions of this permit no physical change or change in the method of operation at this facility will be considered to cause or result in a major modification under Part 7 of OAC 252:100-8 or 40 CFR Part 51, §51.166 relative to each pollutant covered by a PAL.
- c. On and after the effective date [May 1, 2016] of the PALs construction permit No. 2013-0456-C (M-5), which was superseded by Administrative Amendment Permit

No. 2013-0456-C (M-9), issued June 30, 2016, and prior to the issuance of any revised permit pursuant to the provisions of 40 CFR Part 51, §51.166(w)(11), if any PAL identified in Condition I(A)(11) of this permit is exceeded, the Mill is in rebuttable violation of OAC 252:100-8-38 or 40 CFR Part 51, §51.166(w) and State and/or Federal enforcement may ensue. If any PAL identified in Condition I(A)(11) of this permit is exceeded as the result of a facility modification as defined in OAC 252:100-8-30(b), or 40 CFR §51.166(b)(1)(i), then the Mill is in violation of the respective major new source review permit rule and State and/or Federal enforcement may ensue. In the event that any of the PALs identified in Condition I(A)(11) are exceeded for a reason other than as a result of a facility modification as defined in OAC 252:100-8-30(b), or 40 CFR §51.166(b)(1)(i), the Mill shall immediately notify DEQ of discovery of the alleged exceedance, and shall within thirty (30) days submit to the DEQ a report that identifies the cause of the alleged exceedance, and details the actions the Mill will take to correct the alleged exceedance, including an enforceable schedule.

- d. The DEQ may reopen this PAL permit in accordance with the provisions of 40 CFR Part 51, §51.166(w)(8)(ii).
- e. The Mill shall not construct new stationary sources, modify existing stationary sources, or operate existing stationary sources such that any PALs are exceeded except in accordance with the provisions of 40 CFR Part 51, §51.166(w)(11).
- f. The terms and conditions included herein for the PAL permit are valid for a permit term of ten (10) years from the effective date, May 1, 2016.
- g. The facility may apply to renew the PAL permit terms and conditions included herein. An application for renewal must be received no later than 180 days prior to the permit expiration date. The terms and conditions of this permit shall remain in effect until such time that DEQ issues a renewal of the PAL permit.
- h. Should the facility choose to allow the PALs to expire, the operating permit will be restructured in accordance with the provisions of 40 CFR §51.166(w)(9).
- i. A DEQ-issued air quality construction permit under Part 5 of OAC 252:100-8 is required prior to beginning actual construction or installation of:
  - i. Any new or reconstructed major affected source subject to the Federal NESHAP regulations at 40 CFR Part 63.
  - ii. Any new, modified, or reconstructed affected facility subject to the Federal NSPS requirements at 40 CFR Part 60.
  - iii. Any physical change or change in the method of operation at the facility that will result in an exceedance of any of the PAL levels in Condition No. I(11)(a) of this permit and for which the facility complies with the provisions of Condition No. I(11)(e) of this permit.

- j. The provisions of OAC 252:100-8-4(a)(1) that require a DEQ-issued air quality construction permit under Part 5 of OAC 252:100-8 for any physical change that would be a significant modification under OAC 252:100-8-7(b)(2) are not applicable so long as the facility complies with the PAL limitations specified in Condition I(A)(11) of this permit.
- k. For facility modifications as defined in OAC 252:100-1-3 that do not require an increase in any PAL level, the operating permit amendment and modification provisions of OAC 252:100-8-7.2 are applicable.
- l. The Mill will provide written notification to the DEQ regarding changes at the Mill that do not require formal permitting but that contribute emissions of PAL pollutants by adding new emissions units (e.g., adding new small emission units), within thirty (30) days of completing such change. The Mill will begin formal tracking of emissions from such units upon startup using emission factors and calculation methods approved by DEQ.
- m. Emission testing shall be conducted within six months of the effective date of this permit for the sources listed in the table below for PAL compliance tracking in accordance with the provisions of 40 CFR §51.166(w)(12)(vi)(c).

| <b>Validation Testing for Significant Emission Units</b> |                               |                                |                                  |
|--|-------------------------------|--------------------------------|----------------------------------|
| <b>Source ID</b>   | <b>Source Description</b>     | <b>Pollutant</b>               | <b>Test Method<sup>(a)</sup></b> |
| EUG B2   | No. 2 Brownstock Washing Area | VOC                            | Method 25A                       |
| EUG B3   | No. 3 Brownstock Washing Area | VOC                            | Method 25A                       |
| EUG D1   | Bark Boiler                   | Pb                             | Method 29                        |
| EUG D3   | Package Boiler                | NO <sub>x</sub>                | Method 7                         |
| EUG D6   | Recovery Furnace              | H <sub>2</sub> SO <sub>4</sub> | Method 8                         |

(a) The Mill will use the noted test method or an alternative test method approved by DEQ.

- n. For emissions sources authorized in this permit for which the fixed emission factors in Appendix A incorporate a control device efficiency; permittee shall maintain records of times during which the control device is out of service or bypassed for any reason while the emission source continues to operate, and shall calculate emissions for such periods using factors that do not incorporate the control device efficiency. [OAC 252:100-8-6(a)]
- o. The effective date for this PAL permit, on and after which the terms and conditions of this permit are applicable and federally enforceable, and upon which the ten-year effective period for the PALs commences, shall be May 1, 2016. [OAC 252:100-8-6(a)]
- p. This permit supersedes all previous Air Quality operating permits for this facility and they are now cancelled.

**B. Digester Systems**

**EUG A1 – No. 1 Digester System**

**EUG A2 – No. 2 Digester System**

**EUG A3 – No. 3 Digester System**

1. The No. 1, No. 2, and No. 3 Digester Systems shall comply with applicable sections and/or subsections of the following regulations as listed in Table NN of Specific Condition NN.
  - a. 40 CFR 60, Subpart BBa (Kraft Pulp Mills) – No. 2 and No. 3 Digester Systems only.
  - b. 40 CFR 63, Subpart S (Pulp & Paper Industry).
  
2. Non-condensable gases (NCGs) from No. 1, No. 2, and No. 3 Digester Systems shall be routed to the Recovery Furnace, Lime Kiln, or Thermal Oxidizer for combustion. At times when the combustion source becomes unstable or is not operating, air emissions from these units shall be vented to one of the other combustion sources or otherwise treated to reduce TRS emissions to 5 ppm or less, dry-basis. [OAC 252:100-31-15(a)(2)]
  
3. The knotters and screen sources in the pulping system are exempt from the Subpart S control requirements of 40 CFR 63, §63.443(a)(1) based on performance testing that demonstrates that the total HAP emissions from these sources are below the applicability thresholds in §63.443(a)(1)(ii). [40 CFR 63, Subpart S, §63.443]

**C. Reserved**

**D. Reserved**

**E. EUG A4, A5, & A7 – OCC Plants**

1. The OCC Plants shall comply with the following emission limit. [OAC 252-100-8-6(a)(1)]

| Emission Point | EU Name/Model   | VOC <sup>A</sup>     |
|----------------|-----------------|----------------------|
|                |                 | lb/hr <sup>B C</sup> |
| E-A4, C        | No. 1 OCC Plant | 25.1                 |
| A5             | No. 2 OCC Plant |                      |
| A7             | No. 3 OCC Plant |                      |

<sup>A</sup> VOC emissions limitations expressed as methanol.  
<sup>B</sup> Valliant Mill calendar month basis, and hours of operation.  
<sup>C</sup> BACT limit established in Permit No. 97-057-C (M-9) PSD.

2. Compliance with Specific Condition I-E-1 shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as listed in Appendix A. [OAC 252-100-43]

**F. EUG A6 – Makedown Pulper**

1. This emission unit is considered “grandfathered” and is limited to the existing equipment as it is.

| Emission Point | EU Name/Model   | Construction Date |
|----------------|-----------------|-------------------|
| A6             | Makedown Pulper | Pre-1972          |

**G. EUG A8 – OCC Lightweight Rejects Handling System**

The facility is authorized to operate the emission source listed below that is associated with the OCC Lightweight Rejects Handling System.

| Emission Point | EU Name/Model                    |
|----------------|----------------------------------|
| A8             | OCC Lightweight Rejects Baghouse |

1. Reserved.
2. Reserved.
3. Air exhausts from the Bark Boiler Surge Bin shall be processed by a baghouse or equivalent PM<sub>10</sub> emissions control device that achieves discharge concentrations of 0.00437 gr/dscf or less PM<sub>10</sub> emissions. Pressure differential shall be recorded once daily. [OAC 252:100-25]
4. Visible emissions shall be checked periodically by a person qualified to perform a Method 9 observation. [OAC 252:100-25-3]
  - a. Visible emissions observations shall be conducted every 6 months.
  - b. If visible emissions in excess of 20% are noted, then a Method 9 must be performed within 24 hours of the observation.
  - c. If visible emissions in excess of 20% are observed during the Method 9, then corrective action must be taken and excess emissions shall be reported.

**H. EUG B1 – No. 1 Brownstock Washing Area**

1. The No. 1 Brownstock Washing System is subject to the following emission limit. [OAC 252:100-8-6(a)(1)]

| Emission Point | EU Name/Model        | VOC <sup>A</sup>     |
|----------------|----------------------|----------------------|
|                |                      | lb/hr <sup>B C</sup> |
| B1,B<br>B1,C   | Brownstock Washer 1A | 26.6                 |
|                | Brownstock Washer 1B |                      |

<sup>A</sup> VOC emissions limitations expressed as 80% a-pinene/20% methanol.

<sup>B</sup> Valliant Mill calendar month basis, and hours of operation.

<sup>C</sup> BACT limit established in Permit No. 96-043-C PSD.

2. Compliance with Specific Condition I(H)(1) shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as listed in Appendix A. [OAC 252-100-43]

3. The No. 1 Brownstock Washing Area shall comply with all applicable sections and/or subsections of 40 CFR 63, Subpart S (Pulp & Paper Industry) as listed in Table NN of Specific Condition NN. [40 CFR 63, Subpart S]

**I. EUG B2 – No. 2 Brownstock Washing Area**

1. The No. 2 Brownstock Washing System is subject to the following emission limit. [OAC 252:100-8-6(a)(1)]

| Emission Point | EU Name/Model                           | VOC <sup>A</sup>     |
|----------------|---|----------------------|
|                |   | lb/hr <sup>B C</sup> |
| B2,A           | 1 <sup>st</sup> Stage Brownstock Washer | 19.2                 |
| B2,B           | 2 <sup>nd</sup> Stage Brownstock Washer |                      |

<sup>A</sup> VOC emissions limitations expressed as 80% a-pinene/20% methanol.  
<sup>B</sup> Valliant Mill calendar month basis, and hours of operation.  
<sup>C</sup> BACT limit established in Permit No. 96-043-C PSD.

2. Compliance with Specific Condition I-I-1 shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as list in Appendix A. [OAC 252-100-43]
3. The No. 2 Brownstock Washing area shall comply with applicable sections and/or subsections of the following regulations as listed in Table NN of Specific Condition NN.
  - a.40 CFR 60, Subpart BB (Kraft Pulp Mills)
  - b.40 CFR 63, Subpart S (Pulp & Paper Industry).

**J. EUG B3 – No. 3 Brownstock Washing Area**

1. The No. 3 Brownstock Washing System is subject to the following emission limit. [OAC 252:100-8-6(a)(1)]

| Emission Point | EU Name/Model              | VOC <sup>A</sup>     |
|----------------|----------------------------|----------------------|
|                |                            | lb/hr <sup>B C</sup> |
| B3,A           | Brownstock Washer – A Line | 14.8                 |
| B3, B          | Brownstock Washer – A Line |                      |
| B3, C          | Brownstock Washer – B Line |                      |
| B3, D          | Brownstock Washer – B Line |                      |

<sup>A</sup> VOC emissions limitations expressed as 80% a-pinene/20% methanol.  
<sup>B</sup> Valliant Mill calendar month basis, and hours of operation.  
<sup>C</sup> BACT limit established in Permit No. 96-043-C PSD.

2. Compliance with Specific Condition I.-J.-1 shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as listed in Appendix A. [OAC 252-100-43]

**K. EUG C1 – No. 1 Paper Machine (Stock Prep)**  
**EUG C2 – No. 1 Paper Machine (Wet End)**  
**EUG C3 – No. 1 Paper Machine (Dry End)**

1. The Paper Machines are subject to the emission limit listed below.

[OAC 252:100-8-6(a)(1)]

| Emission Point | EU Name/Model                 | VOC <sup>A</sup>     |
|----------------|-------------------------------|----------------------|
|                |                               | lb/hr <sup>B C</sup> |
| E-C1           | Stock Preparation Fourdrinier | 311                  |
| E-C2,A         | Vacuum Pumps/ Vacuum Flume    |                      |
| E-C2,B         | Press Section                 |                      |
| E-C2,D         | Dryer Section                 |                      |
| E-C3,A         |                               |                      |

<sup>A</sup> VOC emissions limitations expressed as methanol.  
<sup>B</sup> Valliant Mill calendar month basis and hours of operation.  
<sup>C</sup> BACT limit established in Permit No. 97-057-C (M-9) PSD.

2. Compliance with Specific Condition I.-K.-1 shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as listed in Appendix A.

[OAC 252-100-43]

3. Visible emissions shall be checked periodically by a person qualified to perform a Method 9 observation.

[OAC 252:100-25-3]

- a. Visible emissions observations shall be conducted every 6 months.
- b. If visible emissions in excess of 20% are noted, then a Method 9 must be performed within 24 hours of the observation.
- c. If visible emissions in excess of 20% are observed during the Method 9, then corrective action must be taken and excess emissions shall be reported.

**L. EUG C4 – No. 2 Paper Machine (Stock Prep)**  
**EUG C5 – No. 2 Paper Machine (Wet End)**  
**EUG C6 – No. 2 Paper Machine (Dry End)**

1. The No. 2 Paper Machine shall comply with the following emission limit.

[OAC 252-100-8-6(a)(1)]

| Emission Point | EU Name/Model                   | VOC <sup>A</sup>     |
|----------------|---------------------------------|----------------------|
|                |                                 | lb/hr <sup>B C</sup> |
| C4 / E-C5,A    | Stock Preparation / Fourdrinier | 147                  |
| E-C5,B         | Press Section                   |                      |
| E-C5,D         | Vacuum Pumps/ Vacuum Flume      |                      |
| E-C6,A         | Dryer Section                   |                      |

<sup>A</sup> VOC emissions limitations expressed as methanol.  
<sup>B</sup> Valliant Mill calendar month basis and hours of operation.  
<sup>C</sup> BACT limit established in Permit No. 97-057-C (M-9) PSD.

2. Compliance with Specific Condition I.-L.-1 shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as listed in Appendix A. [OAC 252-100-43]
3. Visible emissions shall be checked periodically by a person qualified to perform a Method 9 observation. [OAC 252:100-25-3]
  - a. Visible emissions observations shall be conducted every 6 months.
  - b. If visible emissions in excess of 20% are noted, then a Method 9 must be performed within 24 hours of the observation.
  - c. If visible emissions in excess of 20% are observed during the Method 9, then corrective action must be taken and excess emissions shall be reported.

**M. EUG C7 – No. 3 Paper Machine (Stock Prep)**

**EUG C8 – No. 3 Paper Machine (Wet End)**

**EUG C9 – No. 3 Paper Machine (Dry End)**

1. The No. 3 Paper Machine shall comply with the following emission limit. [OAC 252-100-8-6(a)(1)]

| Emission Point | EU Name/Model                 | VOC <sup>A</sup>     |
|----------------|-------------------------------|----------------------|
|                |                               | lb/hr <sup>B C</sup> |
| C7 E-C8,A      | Stock Preparation Fourdrinier | 168                  |
| E-C8,B         | Press Section                 |                      |
| E-C8,D         | Vacuum Pumps/ Vacuum Flume    |                      |
| E-C9,A         | Dryer Section                 |                      |

<sup>A</sup> VOC emissions limitations expressed as methanol.

<sup>B</sup> Valliant Mill calendar month basis and hours of operation.

<sup>C</sup> BACT limit established in Permit No. 97-057-C (M-9) PSD.

2. Compliance with Specific Condition I.-M.-1 shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as listed in Appendix A. [OAC 252-100-43]
3. Visible emissions shall be checked periodically by a person qualified to perform a Method 9 observation. [OAC 252:100-25-3]
  - a. Visible emissions observations shall be conducted every 6 months.
  - b. If visible emissions in excess of 20% are noted, then a Method 9 must be performed within 24 hours of the observation.
  - c. If visible emissions in excess of 20% are observed during the Method 9, then corrective action must be taken and excess emissions shall be reported.

**N. EUG D1 – Bark Boiler**

1. The Bark Boiler is subject to the following emission limits. [OAC 252-100-8-6(a)(1)]

| Emission Point | EU Name/ Model | PM/PM <sub>10</sub>  | CO                   | SO <sub>2</sub>      | NO <sub>x</sub>      | VOC <sup>A</sup>     | Lead                 |
|----------------|----------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                |                | lb/hr <sup>B C</sup> | lb/hr <sup>B C</sup> | lb/hr <sup>B C</sup> | lb/hr <sup>B C</sup> | lb/hr <sup>B C</sup> | lb/hr <sup>B C</sup> |
| D1             | Bark Boiler    | 90.0                 | 6,627                | 720                  | 270                  | 51.2                 | 0.30                 |

<sup>A</sup> VOC emissions limitations expressed as propane.

<sup>B</sup> Valliant Mill calendar month basis and hours of operation.

<sup>C</sup> BACT limit established in Permit No. 96-043-C PSD.

- a. The permittee shall demonstrate compliance with the emission limits listed above as follows.
  - i. Compliance with Specific Condition I.-N.-1 shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors for PM<sub>10</sub>, VOC, and Lead as listed in Appendix A.
  - ii. The permittee shall utilize Continuous Emissions Monitoring System (CEMS) data records to demonstrate compliance with the emission limits listed above for CO, SO<sub>2</sub>, and NO<sub>x</sub>.
  
- b. Reserved.
  
- c. Reserved.
  
2. The Bark Boiler shall comply with applicable sections and/or subsections of 40 CFR 60, Subpart D as listed in Table NN of Specific Condition NN. [40 CFR Part 60.40]
  - a. The permittee shall not emit in excess of 0.10 lb PM/MMBtu heat input from the Bark Boiler or exhibit greater than 20% opacity except for one six-minute period per hour of not more than 27% opacity.
 

[40 CFR 60.42 and Permit No. 96-043-C (M-2)(PSD)]

    - i. All stack exhausts from the Bark Boiler shall be processed by a wet scrubber or equivalent air pollution control device
 

[Permit No. 96-043-C (M-2)(PSD)]
    - ii. A minimum pressure differential of at least 4.5 inches water column (3-hour rolling average) maintained across the wet scrubber demonstrates compliance with the 0.10 lb PM<sub>10</sub>/MMBtu limit. Operation of the wet scrubber on exhaust shall not be required when natural gas is the only fuel being burned.
 

[Permit No. 96-043-C (M-2)(PSD)]
    - iii. Continuous monitoring of opacity from the Bark Boiler shall not be required.
 

[40 CFR 60.13(i) and Permit No. 96-043-C (M-2)(PSD)]
  
  - b. The permittee shall not emit in excess of 0.80 lb SO<sub>2</sub>/MMBtu heat input from the Bark Boiler.
 

[40 CFR 60.43 and Permit No. 96-043-C (M-2)(PSD)]
  
  - c. The permittee shall not emit in excess of 0.30 lb NO<sub>x</sub> (expressed as NO<sub>2</sub>)/MMBtu heat input from the Bark Boiler.
 

[40 CFR 60.44 and Permit No. 96-043-C (M-2)(PSD)]

- d. Determinations of heat input (for determination of compliance with standards on a lb/MMBtu basis) may be determined by ASME Method PTC-4.1 or an equivalent method approved by DEQ. [Permit No. 96-043-C (M-2)(PSD)]
- e. The permittee shall operate and maintain continuous monitoring systems for the Bark Boiler for SO<sub>2</sub> and NO<sub>x</sub> emissions using the applicable methods and procedures set forth and shall record the output of the systems. [40 CFR 60.45(a)]
- f. Permittee shall comply with the Compliance Assurance Monitoring Requirements and Specifications for the Bark Boiler as listed below. [40 CFR Part 64]

| <b>Indicator No. 1</b>                       |  |
|--|--|
| Indicator                                    | Scrubber pressure differential   |
| Measurement Approach                         | Differential pressure transducer   |
| Indicator Range                              | An excursion is defined as a 3-hour rolling average pressure differential below 4.5 inches water column, or to such lower minimum differential pressure value as may be demonstrated during future PM compliance tests and approved by DEQ. Excursions trigger an inspection, corrective actions, and a reporting requirement. |
| Data Representativeness Performance Criteria | The differential pressure transducer monitors the static pressures upstream and downstream of the wet scrubber   |
| QA/QC Practices and Criteria                 | Perform bi - weekly inspection and rod out taps if needed, with the transmitter calibrated annually. Acceptability criterion is 0.1 inches WC.   |
| Monitoring Frequency                         | Measured continuously  |
| Data Collection Procedure                    | One-hour average values computed for each clock hour from the arithmetic average of all valid measured values. Three-hour rolling averages calculated each hour based on the arithmetic average of three successive hourly averages.   |
| Averaging Period                             | 3-hour rolling average   |

- 3. During firing of wastewater treatment plant sludge, the Bark Boiler is subject to federal NESHAP, 40 CFR 61, Subpart E, and shall comply with all applicable requirements. Mercury emissions shall not exceed 3.2 kg of mercury per 24-hour period. If emissions exceed 1.6 kg mercury per 24-hour period, the permittee shall conduct monitoring of the sludge in accordance with 40 CFR 61.55 at least once per year. [40 CFR 61 Subpart E]

4. The Bark Boiler may be used as a back-up control device for the control of emissions as specified in federal NESHAP for Source Categories, 40 CFR 63, Subpart S.  
[40 CFR 63, Subpart S]
5. Fuels include but are not limited to wood residues, OCC rejects, wastewater treatment sludge, and natural gas. Oil from mill equipment (including small portions of used antifreeze and miscellaneous non-hazardous used parts washer fluids) may also be added to the Bark Boiler fuel mixture.  
[OAC 252-100-8-6(a)(1)]
6. Reserved.
7. This specific condition includes additional requirements/limits for the Bark Boiler. Valliant shall be in compliance with the listed emission limits and conditions no later than December 28, 2016. Valliant shall submit any permit modification request as determined to be applicable as a result of proposed changes.

**REGIONAL HAZE VOLUNTARY LIMITS (24-HOUR AVERAGE)**

| Point ID | Source Name | SO <sub>2</sub> | NO <sub>x</sub> | PM\PM <sub>10</sub> |
|----------|-------------|-----------------|-----------------|---------------------|
|          |             | lbs/hr          | lbs/hr          | lbs/hr              |
| D1       | Bark Boiler | 135             | 270             | 90.0                |

- a. The listed limits apply while the units are combusting any fuel type as described in Condition I(N)(5). Sulfur content of fuel oil combusted in the Bark Boiler shall be limited to 15,000 ppm.
  - b. Permittee shall submit any permit modification request as determined to be applicable as a result of proposed changes.
  - c. For determining compliance with the emission average, a “boiler operating day” is as defined in 40 CFR Part 60, Subpart D.
8. The Bark Boiler shall comply with any future applicable sections and/or subsections of 40 CFR Part 63, Subpart DDDDD as listed in Table NN of Specific Condition NN. At the time of issuance of this permit, the applicable Subpart DDDDD requirements are based on the boiler qualifying as a hybrid suspension/grate burner designed to burn wet biomass/bio-based fuel (40 CFR 63.7499(h)) with a compliance date of January 31, 2017, based on the 1 year extension. Should changes occur to the Subpart DDDDD requirements prior to the effective date of the rule, the Valliant Mill will comply accordingly.  
[40 CFR Part 63, Subpart DDDDD]
9. Visible emissions shall be checked periodically by a person qualified to perform a Method 9 observation.  
[OAC 252:100-25-3]
  - a. Visible emissions observations shall be conducted every 6 months.
  - b. If visible emissions in excess of 20% are noted, then a Method 9 must be performed within 24 hours of the observation.
  - c. If visible emissions in excess of 20% are observed during the Method 9, then corrective action must be taken and excess emissions shall be reported.

10. The permittee shall conduct performance testing as follows, and furnish written reports to Air Quality. Testing shall be conducted while the affected unit is being operated at no less than 90% of permitted hourly capacity. A sampling protocol and notification of testing date(s) shall be submitted at least 30 days in advance of commencement of testing. The USEPA methods listed below shall be used for testing of emissions, unless otherwise approved by Air Quality. [OAC 252:100-43]

|                     |  |
|---------------------|--|
| PM/PM <sub>10</sub> | Biannual Testing   |
| VOC                 | Once during the term of the permit   |
| CO                  | Annually, unless equipped with a CEMS – If so, the annual RATA test satisfies the state requirement. |
| NO <sub>x</sub>     | Annually, unless equipped with a CEMS – If so, the annual RATA test satisfies the state requirement. |
| Method 1:           | Sample and Velocity Traverses for Stationary Sources.  |
| Method 2:           | Determination of Stack Gas Velocity and Volumetric Flow Rate.  |
| Method 3:           | Gas Analysis for Carbon Dioxide, Excess Air, and Dry Molecular Weight.                               |
| Method 4:           | Moisture in Stack Gases.   |
| Method 5 or 201:    | PM Emissions from Stationary Sources   |
| Method 202:         | Condensable PM   |
| Method 10:          | CO Emissions from Stationary Sources   |
| Method 25A:         | Non-Methane Organic Emissions from Stationary Sources  |

11. The Bark Boiler is subject to a PM emission limit based on  $E = 1.60X^{-.30103}$ , where X is the maximum heat input in MMBtu/hr and E is particulate matter in lb/MMBtu. However, because the requirement of Condition N.2.a. is more stringent, compliance is assured by compliance with N.2.a. [OAC 252-100-19-4]
12. When used as the control device for the control of emissions as specified in federal NSPS, 40 CFR 60, Subpart BB or BBa, the Bark Boiler shall combust the gases at a minimum temperature of 650 degrees C (1200 degrees F) for at least 0.5 second. [40 CFR 60.283(a)(1)(iii)]
13. The permittee shall utilize Continuous Emissions Monitoring System (CEMS) data records to demonstrate compliance with the emission limits listed above for CO using the applicable methods and procedures set forth in the following regulations. [OAC 252-100-43]

Initial Certification: 40 CFR Part 60 Appendix B—Performance Specifications

Ongoing Quality Assurance: 40 CFR Part 60 Appendix F—Quality Assurance Procedures

**O. EUG D2 –Power Boiler**

1. The Power Boiler shall comply with the following emission limit, calculated using hours of operation per Valliant Mill calendar month. [OAC 252-100-8-6(a)(1)]

| <b>Emission Point</b> | <b>PM/PM<sub>10</sub></b>   |
|-----------------------|-----------------------------|
| Main Stack            | <b>lb/hr</b> <sup>B C</sup> |
|                       | 171                         |

<sup>A</sup> Reserved

<sup>B</sup> Valliant Mill calendar month basis and hours of operation.

<sup>C</sup> Emissions limit reflects PM/PM<sub>10</sub> limit per OAC 252-100-19, and Appendix C (0.19 lb/MMBtu from graph in Appendix C) because short term limits that reflect Oklahoma SIP requirements cannot be removed under the PAL permit.

2. Compliance with Specific Condition I.-O.-1 shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as listed in Appendix A. [OAC 252-100-43]
3. Reserved.
4. The Power Boiler is subject to the requirements of PM emissions; compliance based on  $E = 1.60X^{-.30103}$ , where X is the maximum heat input in MMBtu/hr and E is particulate matter in lb/MMBtu. [OAC 252-100-19-4]
5. The power boiler could have excess opacity emissions occurring twice a month (for a period of up to 30 minutes each) during soot blowing activities, allowing the boiler to operate more efficiently. All excess emissions shall be reported. [OAC 252-100-25]
6. Reserved.
7. This specific condition includes additional requirements/limits for the Power Boiler. Valliant shall be in compliance with the listed BART emission limits and conditions within 5 years of EPA approval of the Regional Haze State Implementation Plan [applicable on and after December 28, 2016]. Valliant shall submit any permit modification request as determined to be applicable as a result of proposed changes.

7. BART Limits

**REGIONAL HAZE VOLUNTARY LIMITS (24-HOUR AVERAGE)**

| <b>Point ID</b> | <b>Source Name</b> | <b>SO<sub>2</sub></b> | <b>NO<sub>x</sub></b> | <b>PM\PM<sub>10</sub></b> |
|-----------------|--------------------|-----------------------|-----------------------|---------------------------|
|                 |                    | <b>lbs/hr</b>         | <b>lbs/hr</b>         | <b>lbs/hr</b>             |
| D2              | Power Boiler       | 252                   | 256                   | 42.7                      |

- a. The listed unit is permitted to combust No. 2 fuel oil and/or used oil. Sulfur content of fuel oil combusted in the Power Boiler shall be limited to 10,000 ppm.
- b. Permittee shall submit any permit modification request as determined to be applicable as a result of proposed changes.
- c. For determining compliance with the emission average, a “boiler operating day” is as defined in 40 CFR Part 60, Subpart D.

8. The Power Boiler shall comply with applicable sections and/or subsections of 40 CFR Part 63, Subpart DDDDD for Light Liquids units (40 CFR 63.7499(u)), as listed in Table NN of Specific Condition NN, with a compliance date of January 31, 2017, based on the 1 year extension.
9. At least once during the term of the Title V renewal permit unless equipped with a CEMS (If so, the annual RATA test satisfies the state requirement), the permittee shall conduct performance testing as follows and furnish a written report to Air Quality. Testing shall be conducted while the affected unit is being operated at least 90% of permitted hourly capacity. A sampling protocol and notification of testing date(s) shall be submitted at least 30 days in advance of commencement of testing. The following USEPA methods shall be used for testing of emissions, unless otherwise approved by Air Quality:

[OAC 252:100-43]

- Method 1: Sample and Velocity Traverses for Stationary Sources.
- Method 2: Determination of Stack Gas Velocity and Volumetric Flow Rate.
- Method 3: Gas Analysis for Carbon Dioxide, Excess Air, and Dry Molecular Weight.
- Method 4: Moisture in Stack Gases.
- Method 7E: NOx Emissions from Stationary Sources

10. The permittee shall utilize Continuous Emissions Monitoring System (CEMS) data records to determine emissions of CO, SO<sub>2</sub>, and NO<sub>x</sub> to demonstrate compliance with the emission limits listed in this permit, using the applicable methods and procedures set forth in the following regulations. The CEMSs shall be installed and operational not later than the first day of the fourth quarter of 2016. Prior to that date, the permittee shall use the alternate non-CEMS methods listed in Appendix A-2 of this permit to determine emission rates.

[OAC 252-100-43]

Initial Certification: 40 CFR Part 60 Appendix B—Performance Specifications  
 Ongoing Quality Assurance: 40 CFR Part 60 Appendix F—Quality Assurance Procedures

**P. EUG D3 –Package Boiler**

1. The Package Boiler is subject to the following emission limits. [OAC 252:100-8 Part 7]

| Emission Point | NO <sub>x</sub>      | SO <sub>2</sub>      | VOC <sup>A</sup>     |
|----------------|----------------------|----------------------|----------------------|
|                | lb/hr <sup>B C</sup> | lb/hr <sup>B C</sup> | lb/hr <sup>B C</sup> |
| D3             | 21.7                 | 12.6                 | 17.2                 |

<sup>A</sup> VOC emissions limitations expressed as propane.  
<sup>B</sup> Valliant Mill calendar month basis, and hours of operation.  
<sup>C</sup> BACT limit established in Permit No. 96-043-C PSD.

2. Compliance with Specific Condition I(P)(1) shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors, as listed in Appendix A.

[OAC 252-100-43]

3. The Package Boiler shall be fired with pipeline grade natural gas. Compliance can be shown by the following methods: for pipeline grade natural gas, a current gas company bill; for other gaseous fuel, a current lab analysis, stain-tube analysis, gas contract, tariff sheet, etc. Compliance shall be demonstrated at least once per calendar year.  
[OAC 252-100-43]
4. The Package Boiler shall comply with applicable sections and/or subsections 40 CFR Part 63, Subpart DDDDD for Gas-1 fuels units (40 CFR 63.7499(1)), as listed in Table NN of Specific Condition NN, with a compliance date of January 31, 2017, based on the 1 year extension.
5. The Package Boiler is subject to the requirements of PM emissions; compliance based on  $E = 1.60X^{-.30103}$ , where X is the maximum heat input in MMBtu/hr and E is particulate matter in lb/MMBtu.  
[OAC 252-100-19-4]
6. Visible emissions shall be checked periodically by a person qualified to perform a Method 9 observation.  
[OAC 252:100-25-3]
  - a. Visible emissions observations shall be conducted every 6 months.
  - b. If visible emissions in excess of 20% are noted, then a Method 9 must be performed within 24 hours of the observation.
  - c. If visible emissions in excess of 20% are observed during the Method 9, then corrective action must be taken and excess emissions shall be reported.
7. The Package Boiler is subject to the requirements of Oklahoma OAC 252:100, Subchapter 31 regarding emissions of sulfur-containing compounds.
8. The Package Boiler is subject to the requirements of Oklahoma OAC 252:100, Subchapter 33 regarding emissions of NOx. Because the requirements of Condition P.1. are more stringent, compliance is assured.  
[OAC 252:100-33]

**Q. EUG D6 – Recovery Furnace**

1. The Recovery Furnace is subject to the following emission limits calculated using hours of operation per Valliant Mill calendar month.  
[OAC 252-100-8-6(a)(1)]

| Emission Point | VOC <sup>A</sup>     | H <sub>2</sub> SO <sub>4</sub> |
|----------------|----------------------|--------------------------------|
|                | lb/hr <sup>B C</sup> | lb/hr <sup>B C</sup>           |
| D6             | 41.3                 | 3.06                           |

<sup>A</sup> VOC emissions limitations expressed as propane.

<sup>B</sup> Valliant Mill calendar month basis, and hours of operation.

<sup>C</sup> BACT limit established in Permit No. 97-057-C (M-9) PSD.

2. The Recovery Furnace shall comply with the following BACT requirements per Permit No. 97-057-C (M-9) PSD.

| Pollutant                      | Emission Limit              | Control Technology       |
|--------------------------------|-----------------------------|--------------------------|
| H <sub>2</sub> SO <sub>4</sub> | 0.5 ppm @ 8% O <sub>2</sub> | GCP/High Solids Firing   |
| VOC (as propane)               | 40 ppm @ 8% O <sub>2</sub>  | Staged Combustion / NDCE |

3. Compliance with Specific Conditions I.-Q.-1 shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as listed in Appendix A.  
[Permit No. 97-057-C (M-9)(PSD)]
4. The Recovery Furnace is subject to the requirements of PM emissions; compliance based on  $E = 1.60X^{-.30103}$ , where X is the maximum heat input in MMBtu/hr and E is particulate matter in lb/MMBtu.  
[OAC 252-100-19-4]
5. Natural gas and ultra low sulfur distillate fuel oil firing from the recovery furnace shall be limited to a maximum annual capacity factor of ten percent (10%) of the unit’s heat input capacity utilizing the Annual Capacity Factor of NSPS Subpart Db until the permittee elects to lift the limit and comply with all requirements of Db.  
[40 CFR §60.41b, 40 CFR §60.46b(d)]
6. Gases from the Smelt Dissolving Tank shall be routed to the Recovery Furnace as combustion air or vented through the emergency bypass. Any emissions associated with the emergency bypass are will be tracked and included in the PAL compliance demonstration per Condition I(A)(11).  
[Permit No. 97-057-C (M-9) PSD]
7. The Recovery Furnace shall comply with the following regulations.
  - a. OAC 252:100, Subchapters 19-4, 31-25.
  - b. Applicable sections and/or subsections of 40 CFR 60, Subpart BB (Kraft Pulp Mills), as listed in Table NN of Specific Condition NN.
  - c. Applicable sections and/or subsections of 40 CFR 63, Subpart MM (Chemical Recovery Combustion Sources at Kraft, Soda, Sulfit, and Stand-Alone Semichemical Pulp Mills), as listed in Table NN of Specific Condition NN.
8. The Recovery Furnace is subject to the requirements of Sulfur Compound emissions of OAC 252-100-31-25. Allowed emission rates shall be determined based upon fuel type [gas, liquid, solid] and the emission limits for each in that regulation. When a combination of fuels is combusted, the proration formula of OAC 252-100-31-25(1)(D) shall be used to determine allowed emission rate.  
[OAC 252-100-31-25]
9. Reserved.
10. At least once during the term of this permit, the permittee shall conduct performance testing as follows and furnish a written report to Air Quality. Testing shall be conducted while the affected unit is being operated at least 90% of permitted hourly capacity. A sampling protocol and notification of testing date(s) shall be submitted at least 30 days in advance of commencement of testing. The following USEPA methods shall be used for testing of emissions, unless otherwise approved by Air Quality.  
[OAC 252:100-43]

- Method 1: Sample and Velocity Traverses for Stationary Sources.
- Method 2: Determination of Stack Gas Velocity and Volumetric Flow Rate.
- Method 3: Gas Analysis for Carbon Dioxide, Excess Air, and Dry Molecular Weight.
- Method 4: Moisture in Stack Gases.
- Method 5 or 201: PM Emissions from Stationary Sources
- Method 202: Condensable PM
- Method 10: CO Emissions from Stationary Sources, unless unit is equipped with CO CEMS.
- Method 25A: Non-Methane Organic Emissions from Stationary Sources

11. The permittee shall utilize Continuous Emissions Monitoring System (CEMS) data records to determine emissions of CO and NO<sub>x</sub> to demonstrate compliance with the emission limits listed in this permit, using the applicable methods and procedures set forth in the following regulations. The CEMSs shall be installed and operational not later than the first day of the fourth quarter of 2016. Prior to that date, the permittee shall use the alternate non-CEMS methods listed in Appendix A-2 of this permit to determine emission rates. [OAC 252-100-43]

Initial Certification: 40 CFR Part 60 Appendix B—Performance Specifications  
Ongoing Quality Assurance: 40 CFR Part 60 Appendix F—Quality Assurance Procedures

#### **R. EUG E1 – Turpentine Recovery System**

1. NCGs from the Turpentine System shall be routed to the Recovery Furnace, Lime Kiln, or Thermal Oxidizer for combustion. At times when the combustion source becomes unstable or is not operating, air emissions from these units shall be vented to one of the other combustion sources or otherwise treated to reduce TRS emissions to 5 ppm or less, dry-basis. [OAC 252:100-31-15(a)(2)]
2. The Turpentine Recovery System shall comply with the following regulations.
  - a. Applicable sections and/or subsections of 40 CFR 60, Subpart BB (Kraft Pulp Mills), as listed in Table NN of Specific Condition NN.
  - b. Applicable sections and/or subsections of 40 CFR 63, Subpart S (Pulp & Paper Mills) as listed in Table NN of Specific Condition NN.

#### **S. EUG E2a – Spent Liquor Concentration**

1. NCGs from the Spent Liquor Concentration shall be routed to the Recovery Furnace, Lime Kiln, or Thermal Oxidizer for combustion. At times when the combustion source becomes unstable or is not operating, air emissions from these units shall be vented to one of the other combustion sources or otherwise treated to reduce TRS emissions to 5 ppm or less, dry-basis. [OAC 252:100-31-15(a)(2)]

2. The Spent Liquor Concentration is a multiple effect evaporator system and shall comply with the following regulations. [OAC 252:100-8-6(a)(1)]
  - a. Applicable sections and/or subsections of 40 CFR 60, Subpart BB (Kraft Pulp Mills) as listed in Table NN of Specific Condition NN.
  - b. Applicable sections and/or subsections of 40 CFR 63, Subpart S (Pulp & Paper Mills) as listed in Table NN of Specific Condition NN.

**T. EUG E2b – Evaporator Sump**

1. Reserved.
2. Reserved.

**U. EUG E3d – Spent Liquor Mix Tanks**

1. Gases from the Spent Liquor Mix Tanks shall be routed to the Recovery Furnace as combustion air or vented through the emergency bypass.

**V. EUG E4b – Smelt Dissolving Tank**

1. The Smelt Dissolving Tank (SDT) includes the following units. [OAC 252:100-8-6(a)(1)]

| Emission Point            | EU Name/Model         | Construction Date |
|---------------------------|-----------------------|-------------------|
| D6 Recovery Furnace Stack | Smelt Dissolving Tank | 2006              |

2. Gases from the Smelt Dissolving Tank shall be routed to the Recovery Furnace as combustion air or vented through the emergency bypass. Any emissions associated with the emergency bypass are will be tracked and included in the PAL compliance demonstration per Condition I(A)(11). [Permit No. 97-057-C (M-9) PSD]
3. The Smelt Dissolving Tank shall comply with the following regulations.
  - a. OAC 252:100, Subchapter 31-4.
  - b. Applicable sections and/or subsections of 40 CFR 60, Subpart BB (Kraft Pulp Mills) as listed in Table NN of Specific Condition NN.
  - c. Applicable sections and/or subsections of 40 CFR 63, Subpart MM (Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills) as listed in Table NN of Specific Condition NN.
4. The Smelt Dissolving Tank emergency bypass shall comply with Oklahoma OAC 252:100, Subchapter 25 regarding visible emissions. Visible emissions shall be checked periodically by a person qualified to perform a Method 9 observation. [OAC 252:100-25-3]
  - a. Visible emissions observations shall be conducted every 6 months while the source is bypassing.
  - b. If visible emissions in excess of 20% are noted, then a Method 9 must be performed within 24 hours of the observation.
  - c. If visible emissions in excess of 20% are observed during the Method 9, then corrective action must be taken and excess emissions shall be reported.

**W. EUG E5 – Lime Slakers**

1. Reserved
2. Reserved
3. The Lime Slakers are subject to OAC 252:100, Subchapter 25 regarding visible emissions and particulates. Visible emissions shall be checked periodically by a person qualified to perform a Method 9 observation. [OAC 252:100-25-3]
  - a. Visible emissions observations shall be conducted every 6 months while the source is bypassing.
  - b. If visible emissions in excess of 20% are noted, then a Method 9 must be performed within 24 hours of the observation.
  - c. If visible emissions in excess of 20% are observed during the Method 9, then corrective action must be taken and excess emissions shall be reported.

**X. EUG E6 – Causticizing System**

1. The following emission limit applies to the causticizing system. [OAC 252:100-8-6(a)(1)]

| Emission Point | EU Name/Model      | VOC <sup>A</sup>     |
|----------------|--------------------|----------------------|
|                |                    | lb/hr <sup>B C</sup> |
| E6 (2 stacks)  | No. 1a Causticizer | 61.9                 |
|                | No. 2 Causticizer  |                      |
|                | No. 1b Causticizer |                      |
|                | No. 3 Causticizer  |                      |

<sup>A</sup> VOC emissions limitations expressed as methanol.  
<sup>B</sup> Valliant Mill calendar month basis and hours of operation.  
<sup>C</sup> BACT limit established in Permit No. 97-057-C (M-9) PSD.

2. Compliance with Specific Condition I(X)(1) shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as listed in Appendix A. [OAC 252-100-43]

**Y. EUG E7a – Lime Kiln**

1. The Lime Kiln shall comply with the following emission limits. [OAC 252-100-8-6(a)(1)]

| Emission Point | VOC <sup>A</sup>     | TRS                  | H <sub>2</sub> SO <sub>4</sub> |
|----------------|----------------------|----------------------|--------------------------------|
|                | lb/hr <sup>B C</sup> | lb/hr <sup>B D</sup> | lb/hr <sup>B C</sup>           |
| E7a            | 12.0                 | 6.48                 | 0.50                           |

<sup>A</sup> VOC emissions limitations expressed as propane.  
<sup>B</sup> Valliant Mill calendar month basis and hours of operation.  
<sup>C</sup> BACT limit established in Permit No. 97-057-C (M-9) PSD.  
<sup>D</sup> Emissions limit reflects TRS limit per OAC 252-100-31 of 40 ppmdv at 10% O<sub>2</sub> because short term limits that reflect Oklahoma SIP requirements cannot be removed under the PAL permit.

2. Compliance with Specific Conditions 1(Y)(1) shall be demonstrated monthly based on operating rates and Valliant Mill specific emission factors as listed in Appendix A.  
[OAC 252-100-43]
3. The Lime Kiln shall comply with the following regulations.
  - a. OAC 252:100, Subchapters 19-12, 25 and 31-15.
  - b. Applicable sections and/or subsections of 40 CFR 63, Subpart MM (Chemical Recovery Combustion Sources at Kraft, Soda, Sulfitic, and Stand-Alone Semicemical Pulp Mills) as listed in Table NN of Specific Condition NN.
  - c. Applicable sections and/or subsections of 40 CFR 60, Subpart BB and/or BBa (Kraft Pulp Mills) (only when used as a control device for the destruction of NCGs) as listed in Table NN of Specific Condition NN.
  - d. Applicable sections and/or subsections of 40 CFR 63, Subpart S (Pulp & Paper Mills) as listed in Table NN of Specific Condition NN.
4. Compliance with OAC 252:100, Subchapter 31-15 is demonstrated by TRS CEMs.
5. When used as the control device for the control of emissions as specified in federal NSPS, 40 CFR 60, Subpart BB or BBa, the Lime Kiln shall combust the gases at a minimum temperature of 650 degrees C (1200 degrees F) for at least 0.5 second.  
[40 CFR 60.283(a)(1)(iii)]
  - a. When used as the control devices for control of emissions as specified in Federal NSPS, 40 CFR 60, Subpart BBa, the Mill must record at least once each successive 5-minute period all measurements from the continuous temperature monitor. Calculate 3-hour block averages from the recorded measurements of incinerator temperature. Temperature measurements recorded when no TRS emissions are fired in the incinerator (e.g., during incinerator warm-up and cool-down periods when no TRS emissions are generated or an alternative control device is used) may be omitted from the block average calculation. [40 CFR 60.284a(c)(2)]
6. The Lime Kiln may be used as a back-up control device for the control of emissions as specified in federal NESHAP for Source Categories, 40 CFR 63, Subpart S.  
[40 CFR 63, Subpart S]
7. The permittee shall utilize Continuous Emissions Monitoring System (CEMS) data records to determine emissions of CO to demonstrate compliance with the emission limits listed in this permit, using the applicable methods and procedures set forth in the following regulations. The CEMs shall be installed and operational not later than the first day of the fourth quarter of 2016. Prior to that date, the permittee shall use the alternate non-CEMS methods listed in Appendix A-2 of this permit to determine emission rates.  
[OAC 252-100-43]

Initial Certification: 40 CFR Part 60 Appendix B—Performance Specifications

Ongoing Quality Assurance: 40 CFR Part 60 Appendix F—Quality Assurance Procedures

8. The Lime Kiln shall be fired with natural gas and/or petroleum coke.
9. The Lime Kiln is subject to the PM emission limit of OAC 252:100, Subchapter 19-12:  $E = (55.00P^{0.11}) - 40$  where P is the process weight rate in tons/hr and E is lb/hr on a calendar monthly basis. [OAC 252-100-19-4]
10. The Lime Kiln utilizes an ESP for PM control and monitors with a COMs unit which shall be calibrated, maintained and operated per the regulatory requirement. A violation would occur when opacity is >20% for 6 percent or more of the operating time during any quarterly period. [40 CFR 63, Subpart MM]
11. The Lime Kiln is subject to the visible emissions limitations of OAC 252:100, Subchapter 25. Compliance shall be demonstrated by the COMs unit for Subpart MM requirement.

**Z. EUG E8 – Tall Oil Plant**

1. Reserved.
2. Reserved.

**AA. EUG F1 – Woodyard**

1. Reserved.
2. Reserved.

**BB. EUG F3a – Wastewater Treatment System and F3b – Wastewater Pipeline**

1. The Wastewater Treatment System shall comply with the following emission limits. [OAC 252:100-8-6(a)(1)]

| Emission Point | EU Name/Model               | H <sub>2</sub> S   |     |
|----------------|-----------------------------|--------------------|-----|
|                |                             | lb/hr <sup>A</sup> | TPY |
| F3a            | Wastewater Treatment System |                    |     |
| F3b            | Wastewater Pipeline         | 1.98               |     |

A Emissions limit to demonstrate compliance with OAC 252:100-31-7.

2. Reserved.
3. At least three times per week, the dissolved oxygen content shall be measured at the discharge end of the pipeline and recorded. [OAC 252:100-8-6]
4. The wastewater shall have oxygen injected as needed such that the dissolved oxygen content does not remain below 0.5 mg/l for more than two consecutive readings at the discharge end of the pipeline. [OAC 252:100-8-6]
5. Reserved.

6. Compliance with Specific Condition I – BB.-1 for F3b shall use the 12-month rolling average flow and emission factor shall be used to calculate a monthly average lb/hr emission rate for comparison with the lb/hr emission limits. [OAC 252:100-8-6]

**CC. EUG F4a – NCG Collection and Thermal Oxidation System – LVHC  
EUG F4b – NCG Collection and Thermal Oxidation System – HVLC**

1. NCGs from the NCG LVHC and HVLC Collection System shall be routed to the Recovery Furnace, Lime Kiln, or Thermal Oxidizer for combustion.  
[40 CFR 63, Subpart S]
2. The NCG Thermal Oxidizer shall be used as a back-up unit for the control and combustion of NCGs and SOGs for periods when the Recovery Furnace and/or Lime Kiln are in process upsets or not in operation.
3. Reserved.
4. Reserved.
5. Emissions from the NCG Thermal Oxidizer shall be processed by a caustic wet scrubber or equivalent system. The system shall maintain a minimum liquor pH of 8.0 and a minimum scrubber recirculation flow of 300 gpm, daily average. The permittee shall demonstrate compliance with this condition by recording the liquor pH and scrubber recirculation flow averaged daily. [OAC 252-100 43]
6. TRS emissions from the NCG Thermal Oxidizer shall not exceed 5 ppm dry basis. [OAC 252:100-31-15(a)(2)]
7. The NCG Thermal Oxidizer shall be used as the one of the backup control device for the control of emissions as specified in federal NSPS, 40 CFR 60, Subpart BB, NSPS, 40 CFR 60, Subpart BBa, and federal NESHAP for Source Categories, 40 CFR 63, Subpart S. [OAC 252:100-8-6(a)(1)]
8. When used as the control device for the control of emissions as specified in federal NSPS, 40 CFR 60, Subpart BB or BBa, the NCG Thermal Oxidizer shall combust the gases at a minimum temperature of 650 degrees C (1200 degrees F) for at least 0.5 second. However, because the requirements of Condition I(CC)(9) is more stringent, compliance is assured by compliance with Condition I(CC)(9). [40 CFR 60.283(a)(1)(iii)]
  - a. When used as the control devices for control of emissions as specified in federal NSPS, 40 CFR 60, Subpart BBa, the Mill must record at least once each successive 5-minute period all measurements from the continuous temperature monitor. Calculate 3-hour block averages from the recorded measurements of incinerator temperature. Temperature measurements recorded when no TRS emissions are fired in the incinerator (e.g., during incinerator warm-up and cool-down periods

when no TRS emissions are generated or an alternative control device is used) may be omitted from the block average calculation. [40 CFR 60.284a(c)(2)]

9. When used as the control device for the control of emissions as specified in federal NESHAP for Source Categories, 40 CFR 63, Subpart S, the NCG Thermal Oxidizer shall comply with all applicable requirements. [40 CFR 63, Subpart S]
  - a. The NCG Thermal Oxidizer shall combust gases at a minimum temperature of 871 degrees C (1600 degrees F) and a minimum residence time of 0.75 seconds. [40 CFR 63.443(d)(3)]
  - b. The NCG Thermal Oxidizer is subject to the requirement in 40 CFR 63.453(b) to install a continuous monitoring system to measure and record the temperature in the firebox or in the ductwork immediately downstream of the firebox.
  - c. Engineering equations shall be used to calculate residence time. These calculations shall be made available to regulatory personnel upon request.

#### **DD. EUG F5 – Solid Waste Disposal Facility Operations**

1. Reserved.
2. Reserved.

#### **EE. EUG F7 & F9 – Chip Thickness Screening and Conditioning Systems**

1. Reserved.
2. Reserved.
3. Visible emissions shall be checked periodically by a person qualified to perform a Method 9 observation. [OAC 252:100-25-3]
  - a. Visible emissions observations shall be conducted every 6 months while the source is bypassing.
  - b. If visible emissions in excess of 20% are noted, then a Method 9 must be performed within 24 hours of the observation.
  - c. If visible emissions in excess of 20% are observed during the Method 9, then corrective action must be taken and excess emissions shall be reported.

#### **FF. EUG F10 - Steam Stripper System**

1. SOGs from the Steam Stripper System shall be routed to the Recovery Furnace, Lime Kiln, or Thermal Oxidizer for combustion.
2. The Steam Stripper System shall comply with the following regulations.
  - a. Applicable sections and/or subsections of 40 CFR 60, Subpart BB (Kraft Pulp Mills) as listed in Table NN of Specific Condition NN.
  - b. Applicable sections and/or subsections of 40 CFR 63, Subpart S (Pulp & Paper Mills) as listed in Table NN of Specific Condition NN.

**GG. EUG F14- Miscellaneous Engines/Fire Pumps**

| Engine | EU Name/Model   | Installation Date | Fuel type   | Subject to a Fed Rule?        | Size (hp) |
|--------|---|-------------------|-------------|-------------------------------|-----------|
| F14-1  | Perkins YB504796 Emergency Turbine Generator  | 2000              | Diesel      | NESHAP ZZZZ - existing        | 300       |
| F14-2  | Caterpillar 3306 DI Emergency Generator at Recovery Furnace                           | 2006              | Diesel      | NESHAP ZZZZ - existing        | 382       |
| F14-3  | Kubota Emergency Generator at Pipeline  | 2003              | Diesel      | NESHAP ZZZZ - existing        | 300       |
| F14-4  | Cummings QST30-G1 Emergency Generator at Receiving Basin                              | Prior to 12/19/02 | Diesel      | NESHAP ZZZZ - existing        | 2,500     |
| F14-5  | Cummings 6081AF0001 #1 Emergency Fire Pump  | 1971              | Diesel      | NESHAP ZZZZ - existing        | 350       |
| F14-6  | John Deere 4000100CD #2 Emergency Fire Pump   | 1995              | Diesel      | NESHAP ZZZZ - existing        | 350       |
| F14-7  | Generac 00058841 West Gate Emergency Generator  | 2011              | Propane     | NESHAP ZZZZ -new<br>NSPS JJJJ | 18.2      |
| F14-8  | Deutz 353 Emergency Lime Kiln Auxiliary Engine "Tractor"                              | 1971              | Diesel      | NESHAP ZZZZ - existing        | 353       |
| F14-9  | Deutz D914L06 New Stormwater Pump   | 2011              | Diesel      | NESHAP ZZZZ -new<br>NSPS IIII | 116       |
| F14-10 | Deutz D914L06 New Stormwater Pump Woodyard  | 2011              | Diesel      | NESHAP ZZZZ -new<br>NSPS IIII | 116       |
| F14-11 | Cummins Power House Air Compressor Emergency Engine                                   | 2000              | Diesel      | NESHAP ZZZZ - existing        | 1600      |
| F14-12 | Natural gas-fired 400-kW [363-hp] Generac EGen, Security Building Emergency Generator | 2015              | Natural gas | NESHAP ZZZZ -new<br>NSPS JJJJ | 363       |

1. Emergency generators F14-3 and F14-4 are limited to 500 hours of operation per year and shall be fitted with non-resettable run hour meters. [OAC 252-100-8-6(a)(1)]
2. The Misc. Engines/Fire Pumps shall comply with the following regulations.
  - a. Applicable sections and/or subsections of 40 CFR 60, Subpart IIII (For units F14-9 and F14-10) as listed in Table NN of Specific Condition NN.
  - b. Applicable sections and/or subsections of 40 CFR 60, Subpart JJJJ (For unit F14-7 and F14-12) as listed in Table NN of Specific Condition NN.
  - c. Applicable sections and/or subsections of 40 CFR 63, Subpart ZZZZ [All units] as listed in Table NN of Specific Condition NN.

**Insignificant Activities**

**HH. EUG E9 – Organic Liquid Storage Vessels**

1. Organic Liquid Storage Vessels include the following units. [OAC 252:100-8-6(a)(1)]

| Emission Point Tank No. | EU Name/Model                                      | Capacity, gallons | Construction Date |
|-------------------------|--|-------------------|-------------------|
| 164100010               | No. 1 Weak Black Liquor Tank                       | 793,090           | 1995              |
| 164100110               | No. 2 Weak Black Liquor Tank                       | 793,090           | 1995              |
| 164100210               | Boilout Tank                                       | 426,263           | 1991              |
| 164101310               | 51% Black Liquor Tank                              | 793,090           | 1994              |
| 164101710               | No. 2 Fuel Oil Storage Tank                        | 1,523,381         | 1990              |
| 164101810               | “NSSC” Weak Liquor Tank                            | 842,428           | 1990              |
| 164102511               | 68% Black Liquor Storage Tank                      | 603,400           | 1995              |
| E-E2,L                  | “Super Bowl” Temporary Storage Area                | 10,000,000        | 1990              |
| 164110110               | Foul Condensate Storage (Steam Stripper Feed) Tank | 350,000           | 2000              |
| 174102010               | No. 2 Green Liquor Storage Tank                    | >20,000           | 1997              |
| 08301                   | 80% Liquor Storage Tank                            | ~125,000          | 2006              |

**II. EUG E10 – Small Volatile Organic Liquid Storage Tanks**

1. The following emission units are considered insignificant because emissions are less than 5 TPY. The permittee shall keep records to verify insignificance.

[OAC 252:100-8-6(a)(1)]

| Emission Point  | EU Name/Model                        | Capacity, Gallons | Construction Date |
|-----------------|--------------------------------------|-------------------|-------------------|
| GAS-01          | Gasoline Fuel Tank                   | 1,950             | 1987              |
| 034120511       | Turpentine Storage Tank              | 28,000            | 1971              |
| ULS Fuel Oil-01 | Ultra Low Sulfur Distillate Fuel Oil | 10,000 gals       | 2008              |

2. The gasoline fuel tank shall be equipped with a permanent submerged fill pipe or equipped with an organic material vapor-recovery system. [OAC 252:100-37-15(a)]

**JJ. EUG F11 - Miscellaneous Insignificant Activities**

1. Reserved.
2. The number of empty barrels disposed in the on-site Solid Waste Disposal Facility will be recorded.

**KK. Record Keeping Requirements**

The permittee shall maintain records of operations (based on Valliant Mill calendar month) as listed below. These records shall be maintained on-site for at least five years after the date of recording and shall be provided to regulatory personnel upon request.

[OAC 252:100-8-6 (a)(3)(B)]

1. The OCC Plants, operating rate on a monthly basis [Condition I(E)(2)].
2. Reserved.

3. The No. 1 Brownstock Washing Area, operating rate on a monthly basis [Condition I(H)(2)].
4. The No. 2 Brownstock Washing Area, operating rate on a monthly basis [Condition I(I)(2)].
5. The No. 3 Brownstock Washing Area, operating rate on a monthly basis [Condition I(J)(2)].
6. The No. 1 Paper Machine operating rate on a monthly basis [Condition I(K)(2)].
7. The No. 2 Paper Machine operating rate on a monthly basis [Condition I(L)(2)].
8. The No. 3 Paper Machine operating rate on a monthly basis [Condition I(M)(2)].
9. Monthly quantities of all fuels fired in the Bark Boiler. The recorded amount of OCC rejects fired shall be on a dry basis [Condition I(N)(1)(a)(i)].
10. CEMS readings of SO<sub>2</sub> and NO<sub>x</sub> emissions from the Bark Boiler [Condition I(N)(1)(a)(ii)].
11. Reserved
12. Daily Bark Boiler wet scrubber pressure differential [Condition I(N)(2)(a)(ii)].
13. The Power Boiler operating rate on a monthly basis [Condition I(O)(2)].
14. Amount of liquid fuels fired in the Power Boiler (daily when done and cumulative annual total) [Condition I(O)(1)].
15. Reserved.
16. The Package Boiler, operating rate on a monthly basis.
17. Monthly amount of natural gas fired in the Package Boiler. [Condition I(P)(2)]. Annual sulfur content of natural gas [Condition I(P)(3)].
18. Reserved.
19. The Causticizing System operating rate on a monthly basis [Condition I(X)(2)].
20. The Lime Kiln operating rate on a monthly basis [Condition I(Y)(2)]
21. Lime Kiln COMS data (continuous when operating; in accordance with 40 CFR Part 63, Subpart MM; 63.864(d)) [Condition I(Y)]
22. Lime Kiln combustion temperature continuously when used on a back-up control device [Condition I(Y)]
23. Reserved.
24. Reserved.
25. The pipeline discharge dissolved oxygen content recorded (three times per week, when operated). [Condition I(BB)(3)]
26. Reserved.
27. Reserved.
28. Daily average NCG Thermal Oxidizer wet scrubber liquor pH and recirculation flow.
29. NCG Thermal Oxidizer operating temperature (continuous when operated).
30. Reserved.
31. Reserved.
32. Reserved.
33. Reserved.
34. Hours of operation of each stationary engine (monthly and 12-month rolling totals based on Valliant Mill calendar month) [Condition I(JJ)(2)].
35. Sulfur content of liquid fuels used in stationary diesel engines F11-3 and F11-4, and the Power Boiler.

36. Empty barrels disposed in the on-site Solid Waste Disposal Facility tracked on a Valliant Mill calendar monthly basis.
37. The permittee shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable equipment subject to federal NESHAP for Source Categories, 40 CFR 63, Subpart S, and record the information listed in 40 CFR 63.454(b) for each inspection.
38. CEMS readings of TRS emissions from the Lime Kiln (Condition I(Y)(4)).
39. The permittee shall keep all applicable records as required by the following regulations.
  - a. 40 CFR Part 60 Subparts D, BB, IIII, and JJJJ.
  - b. 40 CFR Part 61 Subpart E.
  - c. 40 CFR Part 63 Subparts S, MM, ZZZZ, and DDDDD.
  - d. For specific recordkeeping citations by EUG see Table NN.
40. Reserved.
41. Reserved.

#### **LL. Reporting Requirements**

1. The permittee shall meet all recordkeeping and reporting requirements as required by the following regulations.
  - a. 40 CFR Part 60 Subparts D, BB, BBa, IIII, and JJJJ.
  - b. 40 CFR Part 61 Subpart E.
  - c. 40 CFR Part 63 Subparts S, MM, ZZZZ, and DDDDD.
  - d. See Table NN for specific reporting citations by EUG.

#### **MM. Testing and Monitoring**

1. The permittee shall meet all testing and monitoring requirements as required, including but not limited to the following regulations.
  - a. 40 CFR Part 60 Subparts D, BB, BBa, IIII, and JJJJ.
  - b. 40 CFR Part 61 Subpart E.
  - c. 40 CFR Part 63 Subparts S, MM, ZZZZ, and DDDDD.
  - d. See Table NN for specific reporting citations by EUG.
2. No later than 30 days after each anniversary of January 1, 2011, the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, certification of compliance with the terms and conditions of this permit.
3. No later than 30 days after each (6) month period after January 1, 2011, the permittee shall submit to AQD a report of all required monitoring not reported since the last semi-annual monitoring report. [OAC 252:100-8-6 (c)(5)(A) & (D)]

#### **NN. Federal Regulatory Requirement Citations**

1. The table on the following pages displays applicability for each state and federal rule as applicable to each emission unit as referenced in the specific conditions of this permit. Permittee shall comply with applicable provisions as listed for each emission unit.

**Table NN. Federal Regulatory Requirement Citations**

| EUG:         | Applicable Regs                           | Unit  | Emission limitations:        | Monitoring: | Recordkeeping Requirements: | Reporting Requirements:   | Test Methods & Procedures | Applicable Parts of the General Provisions: |
|--------------|---|---|------------------------------|-------------|-----------------------------|---|---------------------------|---|
| FW           | Part 82, Subpart B, F & H                 | Facility-Wide   |                              |             |                             |   |                           |   |
| A1           | Subpart S                                 | No. 1 Digester System - Existing Kraft Digester         | 63.443 and 63.446 and 63.450 | 63.453      | 63.454, 63.456              | 63.455, 63.456  | 63.457                    | 40 CFR 63 Subpart S Table 1                 |
| A1           | Subpart BB, Applicable but not triggered. | No. 1 Digester System - Existing Kraft Digester         | None                         |             |                             |   |                           |   |
| A2           | Subpart S                                 | No. 2 Digester System - Existing Kraft Digester         | 63.443 and 63.446 and 63.450 | 63.453      | 63.454, 63.456              | 63.455, 63.456  | 63.457                    | 40 CFR 63 Subpart S Table 1                 |
| A2           | Subpart BBa                               | No. 2 Digester System - Existing Kraft Digester         | 60.283a                      | 60.284a     |                             |   |                           |   |
| A3           | Subpart S                                 | No. 3 Digester System - Existing Semi-Chemical Digester | 63.443 and 63.450            | 63.453      | 63.454, 63.456              | Unit has no Subpart S limits; however with CCA utilization at the mill, need to monitor what's happening with system. |                           |   |
| A3           | Subpart BBa                               | No. 3 Digester System - Existing Semi-Chemical Digester | 60.283a                      | 60.284a     |                             |   |                           |   |
| A4, A5, & A7 |   | OCC Plants  | None                         |             |                             |   |                           |   |
| A6           |   | Makedown Pulper   | None                         |             |                             |   |                           |   |
| A8           |   | OCC Lightweight Rejects Handling System                 | None                         |             |                             |   |                           |   |
| B1           | Subpart S                                 | No. 1 Brownstock Washing Area                           | 63.447                       | 63.453      | 63.454                      | 63.447 & 63.455   | 63.457                    | 40 CFR 63 Subpart S Table 1                 |

| <b>EUG:</b> | <b>Applicable Regs</b>                    | <b>Unit</b>                      | <b>Emission limitations:</b>        | <b>Monitoring:</b> | <b>Recordkeeping Requirements:</b> | <b>Reporting Requirements:</b> | <b>Test Methods &amp; Procedures</b> | <b>Applicable Parts of the General Provisions:</b> |
|-------------|---|----------------------------------|-------------------------------------|--------------------|------------------------------------|--------------------------------|--------------------------------------|--|
| B1          | Subpart BB, Applicable but not triggered. | No. 1 Brownstock Washing Area    | None                                |                    |                                    |                                |                                      |  |
| B2          | Subpart BB,                               | No. 2 Brownstock Washing Area    | 60.283                              | 60.284             |                                    |                                |                                      |  |
| B2          | Subpart S                                 | No. 2 Brownstock Washing Area    | 63.447                              | 63.453             | 63.454, 63.456                     | 63.447 & 63.455, 63.456        | 63.457                               | 40 CFR 63 Subpart S Table 1, 40 CFR 63, Subpart A  |
| B3          | Subpart BB, Applicable but not triggered. | No. 3 Brownstock Washing Area    | None                                |                    |                                    |                                |                                      |  |
| B3          | Subpart S                                 | No. 3 Brownstock Washing Area    | None – Clean Condensate Alternative | 63.453             | 63.454                             |                                |                                      | 40 CFR 63 Subpart S Table 1, 40 CFR 63, Subpart A  |
| C1          |   | No. 1 Paper Machine (Stock Prep) | None                                |                    |                                    |                                |                                      |  |
| C2          |   | No. 1 Paper Machine (Wet End)    | None                                |                    |                                    |                                |                                      |  |
| C3          |   | No. 1 Paper Machine (Wet End)    | None                                |                    |                                    |                                |                                      |  |
| C4          |   | No. 2 Paper Machine (Stock Prep) | None                                |                    |                                    |                                |                                      |  |
| C5          |   | No. 2 Paper Machine (Wet End)    | None                                |                    |                                    |                                |                                      |  |
| C6          |   | No. 2 Paper Machine (Dry End)    | None                                |                    |                                    |                                |                                      |  |

| EUG: | Applicable Regs   | Unit                             | Emission limitations:  | Monitoring:                        | Recordkeeping Requirements: | Reporting Requirements: | Test Methods & Procedures | Applicable Parts of the General Provisions: |
|------|---|----------------------------------|------------------------|------------------------------------|-----------------------------|-------------------------|---------------------------|---|
| C7   |   | No. 3 Paper Machine (Stock Prep) | None                   |                                    |                             |                         |                           |   |
| C8   |   | No. 3 Paper Machine (Wet End)    | None                   |                                    |                             |                         |                           |   |
| C9   |   | No. 3 Paper Machine (Dry End)    | None                   |                                    |                             |                         |                           |   |
| D1   | Subpart S (Applicable when used as back-up control device, but not triggered) | Bark Boiler                      | 63.443, 63.446, 63.450 | 63.453                             | 63.454                      | 63.455                  | 63.457                    | 40 CFR 63 Subpart S Table 1                 |
| D1   | Subpart D   | Bark Boiler                      | 60.42, 60.43 & 60.44   | 60.45                              | 60.45                       | 60.45                   | 60.46                     | 40 CFR 60, Subpart A                        |
| D1   | Subpart E   | Bark Boiler                      | 61.52                  | 61.54 & 61.55                      | 61.54                       | 61.54                   | 61.54                     | 40 CFR 61, Subpart A                        |
| D1   | Subpart DDDDD   | Bark Boiler                      | 63.7500, 63.7501       | 63.7510, 63.7525, 63.7535, 63.7540 | 63.7540, 63.7555, 63.7560   | 63.7545 & 63.7550       | 63.7515, 63.7520, 63.7530 | 63.7565, 40 CFR 63, Subpart A               |
| D2   | Subpart DDDDD   | Power Boiler                     | 63.7500, 63.7501       | 63.7510, 63.7525, 63.7535, 63.7540 | 63.7540, 63.7555, 63.7560   | 63.7545 & 63.7550       | 63.7515, 63.7520, 63.7530 | 63.7565, 40 CFR 63, Subpart A               |
| D3   | Subpart DDDDD   | Package Boiler                   | 63.7500, 63.7501       | 63.7510, 63.7525, 63.7535, 63.7540 | 63.7540, 63.7555, 63.7560   | 63.7545 & 63.7550       | 63.7515, 63.7520, 63.7530 | 63.7565, 40 CFR 63, Subpart A               |

| <b>EUG:</b> | <b>Applicable Regs</b> | <b>Unit</b>                | <b>Emission limitations:</b> | <b>Monitoring:</b>                           | <b>Recordkeeping Requirements:</b> | <b>Reporting Requirements:</b> | <b>Test Methods &amp; Procedures</b> | <b>Applicable Parts of the General Provisions:</b> |
|-------------|------------------------|----------------------------|------------------------------|--|------------------------------------|--------------------------------|--------------------------------------|--|
| D6          | Subpart MM             | Recovery Furnace           | 63.862                       | 63.864                                       | 63.866                             | 63.867                         | 63.865                               | 40 CFR 63 MM<br>Table 1, 40 CFR 63, Subpart A      |
| D6          | Subpart S              | Recovery Furnace           | 63.443                       | 63.453                                       | 63.454, 63.456                     | 63.455, 63.456                 | 63.457                               | 40 CFR 63 Subpart S, Table 1; 40 CFR 63, Subpart A |
| D6          | Subpart BB             | Recovery Furnace           | 60.282 & 60.283              | 60.284                                       | 60.284                             | 60.284                         | 60.284 & 60.285                      | 40 CFR 60 BB, 40 CFR 60, Subpart A                 |
| D6          | Subpart Db             | Recovery Furnace           | 60.44 (d)                    | 40 CFR 60 Db                                 | 60.49 (d,o,p)                      | 60.49 (q)                      | 40 CFR 60 Db                         | 40 CFR 60 Db, 40 CFR 60, Subpart A                 |
| E1          | Subpart S              | Turpentine Recovery System | 63.443 & 63.450              | 63.453                                       | 63.454, 63.456                     | 63.455, 63.456                 | 63.457                               | 40 CFR 63 Subpart S Table 1, 40 CFR 63, Subpart A  |
| E1          | Subpart BB             | Turpentine Recovery System | 60.283                       | 60.284, see lime kiln & NCG thermal oxidizer | 60.284                             | 60.284                         | 60.284 & 60.285                      | 40 CFR 60 BB, 40 CFR 60, Subpart A                 |

| EUG: | Applicable Regs | Unit                       | Emission limitations:   | Monitoring:                                  | Recordkeeping Requirements: | Reporting Requirements: | Test Methods & Procedures | Applicable Parts of the General Provisions:       |
|------|-----------------|----------------------------|---|--|-----------------------------|-------------------------|---------------------------|---|
| E2a  | Subpart S       | Spent Liquor Concentration | 63.443 & 63.450   | 63.453                                       | 63.454, 63.456              | 63.455, 63.456          | 63.457                    | 40 CFR 63 Subpart S Table 1, 40 CFR 63, Subpart A |
| E2a  | Subpart BB      | Spent Liquor Concentration | 60.283  | 60.284, see lime kiln & NCG thermal oxidizer | 60.284                      | 60.284                  | 60.284 & 60.285           | 40 CFR 60 BB, 40 CFR 60, Subpart A                |
| E2b  |                 | Evaporator Sewer Sump      | None  |  |                             |                         |                           |   |
| E3d  |                 | Spent Liquor Mix Tanks     | None – Emissions routed to Recovery Furnace   |  |                             |                         |                           |   |
| E4b  | Subpart MM      | Smelt Dissolving Tank      | Applicable. However, no direct emissions from the SDT (except SSM/excess emissions). The SDT is vented to the recovery furnace. |  |                             | 63.866 (a,b,c)          |                           |   |
| E4b  | Subpart BB      | Smelt Dissolving Tank      | Applicable. However, no direct emissions from the SDT (except SSM/excess emissions). The SDT is vented to the recovery furnace. |  |                             | 40 CFR 60 BB            |                           |   |
| E5   |                 | Lime Slakers               | None  |  |                             |                         |                           |   |
| E6   |                 | Causticizing System        | None  |  |                             |                         |                           |   |
| E7a  | Subpart MM      | Lime Kiln                  | 63.862  | 63.864                                       | 63.866                      | 63.867                  | 63.865                    | 40 CFR 63 MM Table 1, 40 CFR 63, Subpart A        |

| <b>EUG:</b> | <b>Applicable Regs</b>   | <b>Unit</b>                                 | <b>Emission limitations:</b> | <b>Monitoring:</b> | <b>Recordkeeping Requirements:</b> | <b>Reporting Requirements:</b> | <b>Test Methods &amp; Procedures</b> | <b>Applicable Parts of the General Provisions:</b> |
|-------------|--|---|------------------------------|--------------------|------------------------------------|--------------------------------|--------------------------------------|--|
| E7a         | Subpart S (when used as a back-up control device)  | Lime Kiln                                   | 63.443 and 63.450            | 63.453             | 63.454, 63.456                     | 63.455, 63.456                 | 63.457                               | 40 CFR 63 Subpart S Table 1, 40 CFR 63, Subpart A  |
| E7a         | Subpart BB (when used as a back-up control device) – applicable – but not because of modification  | Lime Kiln                                   | 60.283                       | 60.284             | 60.284                             | 60.284                         | 60.284 and 60.285                    | 40 CFR 60, Subpart BB; 40 CFR 60, Subpart A        |
| E7a         | Subpart BBa (when used as a back-up control device) – applicable – but not because of modification | Lime Kiln                                   | 60.283a                      | 60.284a            | 60.284a and 60.287a                | 60.284a and 60.288a            | 60.284a and 60.285a                  | 40 CFR 60, Subpart BBa; 40 CFR 60, Subpart A       |
| E8          |  | Tall Oil Plant                              | None                         |                    |                                    |                                |                                      |  |
| E9          |  | Organic Liquid Storage Vessels              | None                         |                    |                                    |                                |                                      |  |
| E10         |  | Small Volatile Organic Liquid Storage Tanks | None                         |                    |                                    |                                |                                      |  |
| F1          |  | Woodyard                                    | None                         |                    |                                    |                                |                                      |  |
| F2          |  | Facility Traffic                            | None                         |                    |                                    |                                |                                      |  |
| F3          |  | Wastewater Treatment System                 | None                         |                    |                                    |                                |                                      |  |

| <b>EUG:</b> | <b>Applicable Regs</b> | <b>Unit</b>  | <b>Emission limitations:</b> | <b>Monitoring:</b> | <b>Recordkeeping Requirements:</b> | <b>Reporting Requirements:</b> | <b>Test Methods &amp; Procedures</b> | <b>Applicable Parts of the General Provisions:</b> |
|-------------|------------------------|--|------------------------------|--------------------|------------------------------------|--------------------------------|--------------------------------------|--|
| F4a         | Subpart S              | NCG Collection and Thermal Oxidation System – LVHC | 63.443 and 63.450            | 63.453             | 63.454, 63.456                     | 63.455, 63.456                 | 63.457                               | 40 CFR 63 Subpart S Table 1; 40 CFR 63, Subpart A  |
| F4a         | Subpart BB             | NCG Collection and Thermal Oxidation System – LVHC | 60.283                       | 60.284             | 60.284                             | 60.284                         | 60.284 and 60.285                    | 40 CFR 60, Subpart BB; 40 CFR 60, Subpart A        |
| F4a         | Subpart BBa            | NCG Collection and Thermal Oxidation System – LVHC | 60.283a                      | 60.284a            | 60.284a and 60.287a                | 60.284a and 60.288a            | 60.284a and 60.285a                  | 40 CFR 60, Subpart BBa; 40 CFR 60, Subpart A       |
| F4b         | Subpart S              | NCG Collection and Thermal Oxidation System – HVLC | 63.443 and 63.450            | 63.453             | 63.454, 63.456                     | 63.455, 63.456                 | 63.457                               | 40 CFR 63 Subpart S Table 1; 40 CFR 63, Subpart A  |
| F4b         | Subpart BB             | NCG Collection and Thermal Oxidation System – HVLC | 60.283                       | 60.284             | 60.284                             | 60.284                         | 60.284 and 60.285                    | 40 CFR 60, Subpart BB; 40 CFR 60, Subpart A        |

| EUG:    | Applicable Regs                         | Unit   | Emission limitations:  | Monitoring:  | Recordkeeping Requirements:  | Reporting Requirements:  | Test Methods & Procedures  | Applicable Parts of the General Provisions:                              |
|---------|---|--|--|--|--|--|--|--|
| F4b     | Subpart BBa                             | NCG Collection and Thermal Oxidation System – HVLC | 60.283a  | 60.284a  | 60.284a and 60.287a  | 60.284a and 60.288a  | 60.284a and 60.285a  | 40 CFR 60, Subpart BBa; 40 CFR 60, Subpart A                             |
| F5      |   | Solid Waste Disposal Facility Operations           | None   |  |  |  |  |  |
| F6      |   | Diesel Stormwater Pump                             | None   |  |  |  |  |  |
| F7 & F9 |   | Chip Thickness Screening/Conditioning System       | None   |  |  |  |  |  |
| F10     | Subpart S                               | Steam Stripper System                              | 63.443, 63.446 and 63.450  | 63.453   | 63.454, 63.456   | 63.455, 63.456   | 63.457   | 40 CFR 63 Subpart S Table 1; 40 CFR 63, Subpart A                        |
| F10     | Subpart BB (applic–steam stripper prjt) | Steam Stripper System                              | 60.283   | see lime kiln & NCG thermal oxidizer                                     |  |  |  |  |
| F11     |   | Misc. Insignificant Activities                     | None   |  |  |  |  |  |
| F14     | Subpart IIII<br>Subpart ZZZZ            | Misc. Engines/Fire Pumps                           | Various under 40 CFR Part 60, Subpart IIII; 40 CFR Part 63, Subpart ZZZZ | Various under 40 CFR Part 60, Subpart IIII; 40 CFR Part 63, Subpart ZZZZ | Various under 40 CFR Part 60, Subpart IIII; 40 CFR Part 63, Subpart ZZZZ | Various under 40 CFR Part 60, Subpart IIII; 40 CFR Part 63, Subpart ZZZZ | Various under 40 CFR Part 60, Subpart IIII; 40 CFR Part 63, Subpart ZZZZ | Various under 40 CFR Part 60, Subpart IIII; 40 CFR Part 63, Subpart ZZZZ |
| F13     |   | Petcoke Silo Bin Vent No. 1                        | None   |  |  |  |  |  |



**PROPOSED/DRAFT**

International Paper  
Attn: Mr. Robbie Gillem  
890 IP Lane  
Valliant, Oklahoma 74764

SUBJECT: Permit Application No. 2013-0465-C (M-10)  
Valliant Mill  
Facility ID No. 1733

Dear Mr. Gillem:

Enclosed is the permit authorizing construction of modifications to the referenced facility. Please note that this permit is issued subject to certain standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1<sup>st</sup> of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at 405-702-4100.

Thank you for your cooperation in this matter. If we may be of further service, please contact me at [Amalia.talty@deq.ok.gov](mailto:Amalia.talty@deq.ok.gov) or at (405) 702-4208

Sincerely,

Amalia Talty, P.E.  
Existing Source Permit Section  
**AIR QUALITY DIVISION**

**MAJOR SOURCE AIR QUALITY PERMIT  
STANDARD CONDITIONS  
(June 21, 2016)**

**SECTION I. DUTY TO COMPLY**

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.

[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

**SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS**

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements. [OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F. [OAC 252:100-8-6(a)(3)(C)(iv)]

**SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING**

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

- (1) the date, place and time of sampling or measurement;
- (2) the date or dates analyses were performed;
- (3) the company or entity which performed the analyses;
- (4) the analytical techniques or methods used;
- (5) the results of such analyses; and
- (6) the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report.

[OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions.

[OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act.

[OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards (“NSPS”) under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants (“NESHAPs”) under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer’s instructions and in accordance with a protocol meeting the requirements of the “AQD Portable Analyzer Guidance” document or an equivalent method approved by Air Quality.

[OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM<sub>10</sub>). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

#### **SECTION IV. COMPLIANCE CERTIFICATIONS**

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source.

[OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

## **SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM**

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification.

[OAC 252:100-8-6(c)(6)]

## **SECTION VI. PERMIT SHIELD**

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit.

[OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit.

[OAC 252:100-8-6(d)(2)]

**SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT**

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.

[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

**SECTION VIII. TERM OF PERMIT**

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

**SECTION IX. SEVERABILITY**

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[OAC 252:100-8-6 (a)(6)]

**SECTION X. PROPERTY RIGHTS**

A. This permit does not convey any property rights of any sort, or any exclusive privilege.

[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued.

[OAC 252:100-8-6(c)(6)]

**SECTION XI. DUTY TO PROVIDE INFORMATION**

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing,

terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.

[OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.

[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.

[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

## **SECTION XII. REOPENING, MODIFICATION & REVOCATION**

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.

[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances:

[OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

- (1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
- (2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
- (4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d).

[OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a “grandfathered source,” as defined under AQD rules. Such changes may require a permit modification.

[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited. [OAC 252:100-8-6(c)(6)]

### SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(17) for confidential information submitted to or obtained by the DEQ under this section):

- (1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- (4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.

[OAC 252:100-8-6(c)(2)]

### SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance. [OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

- (1) an emergency occurred and the permittee can identify the cause or causes of the emergency;

- (2) the permitted facility was at the time being properly operated;
- (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F. [OAC 252:100-8-6(a)(3)(C)(iv)]

## **SECTION XV. RISK MANAGEMENT PLAN**

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]

## **SECTION XVI. INSIGNIFICANT ACTIVITIES**

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

- (1) 5 tons per year of any one criteria pollutant.
- (2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.

[OAC 252:100-8-2 and OAC 252:100, Appendix I]

## **SECTION XVII. TRIVIAL ACTIVITIES**

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.

[OAC 252:100-8-2 and OAC 252:100, Appendix J]

## **SECTION XVIII. OPERATIONAL FLEXIBILITY**

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

- (1) result in no net emissions increases,
- (2) are not modifications under any provision of Title I of the federal Clean Air Act, and
- (3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

#### **SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS**

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

- (1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter. [OAC 252:100-13]
- (2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]
- (3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for: [OAC 252:100-25]
  - (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
  - (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
  - (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
  - (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.
- (4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of

adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]

- (5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
- (6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]
- (7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

## SECTION XX. STRATOSPHERIC OZONE PROTECTION

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

- (1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;
- (2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and
- (3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

- (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
- (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158;
- (3) Persons performing maintenance, service, repair, or disposal of appliances must be

- certified by an approved technician certification program pursuant to § 82.161;
- (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;
  - (5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and
  - (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

## **SECTION XXI. TITLE V APPROVAL LANGUAGE**

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source's Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

- (1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.
- (2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).
- (3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).
- (4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R. § 70.8(a) and (c).
- (5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.
- (6) The DEQ complies with 40 C.F.R. § 70.8(d).
- (7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).
- (8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.
- (9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).

- (10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

## **SECTION XXII. CREDIBLE EVIDENCE**

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[OAC 252:100-43-6]



# PART 70 PERMIT

AIR QUALITY DIVISION  
STATE OF OKLAHOMA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
707 N. ROBINSON, SUITE 4100  
P.O. BOX 1677  
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2013-0465-C (M-10)

International Paper,

having complied with the requirements of the law, is hereby granted permission to construct the modification to the IP Valliant Paper Mill in Valliant, McCurtain County, subject to Standard Conditions dated June 21, 2016, and Specific Conditions, both attached.

This permit shall expire five years after the date of issuance of Permit No. 2013-0465-TVR [January 5, 2015], except as Authorized under Section VIII of the Standard Conditions.

\_\_\_\_\_  
Director

Air Quality Division

\_\_\_\_\_  
Date