

ENVIRONMENT & HEALTH

North Carolina Department of Environment Quality Fayetteville Regional Office Division of Air Quality Mr. Steven Vozzo Regional Supervisor 225 Green Street, Suite 714 Fayetteville, NC 28301-5095

Re: Initial Title V Permit Application Enviva Pellets Sampson, LLC Sampson County, North Carolina Permit No.: 10386R03 Facility ID No.: 8200152

RECEIVED SEP 2 9 2017 DEQ-FAYETTEVILLE REGIONAL OFFICE

Dear Mr. Vozzo:

Enclosed please find a North Carolina Department of Environment Quality, Division of Air Quality (NC DAQ) permit application package for an initial Title V permit for the Enviva Pellets Sampson, LLC (Enviva) wood pellet processing plant in Sampson County, North Carolina. The Sampson plant is a major source with respect to the Title V Operating Permit Program because facility-wide emissions of one or more criteria pollutants exceed the major source threshold of 100 tons per year (tpy). Additionally, the plant is considered a major source of hazardous air pollutants (HAP) due to total HAP emissions exceeding the major source threshold of 25 tpy. Enviva is submitting this application to obtain an initial Title V permit for the Sampson plant pursuant to 15A North Carolina Administrative Code (NCAC) 02Q .0507(a) which requires that an application be submitted within 12 months from the date a source begins operation. This permit application incorporates all equipment permitted for construction under Enviva's Prevention of Significant Deterioration (PSD) permit with the exception of the eight (8th) hammermill. Enviva only installed seven (7) of the eight (8) hammermills permitted under PSD Permit No. 10386R03.

The permit application package includes seven (7) copies of the following documents:

- Application for Initial Title V Air Permit
- Appendix A Area Map
- Appendix B Process Flow Diagram
- Appendix C Potential Emissions Calculations

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Date September 28, 2017

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• Appendix D – Permit Application Forms

If you have any questions regarding this permit application, please contact Joe Harrell, Corporate EHS Manager at Enviva, at (252) 209-6032 or joe.harrell@envivabiomass.com, or me at (225) 408-2691 or mcarbon@environcorp.com.

Yours sincerely,

MADZ.

Michael Carbon Managing Principal

Enclosures: Permit Application including Appendices

cc: Joe Harrell, Enviva

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Prepared for Enviva Pellets Sampson, LLC Sampson County, North Carolina

Prepared By Ramboll Environ US Corporation Research Triangle Park, North Carolina

Project Number 2638130F

Date September 2017

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### APPLICATION FOR INITIAL TITLE V AIR PERMIT ENVIVA PELLETS SAMPSON, LLC

Received DCT 2 2017 Air Permits Section



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- Appendix B Process Flow Diagram
- Appendix C Potential Emissions Calculations
- Appendix D Permit Application Forms

### **ACRONYMS AND ABBREVIATIONS**

AAL	Acceptable Ambient Level
AP-42	Compilation of Air Pollutant Emission Factors
BMP	Best Management Practice
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
CI	Compression Ignition
СО	Carbon Monoxide
DAQ	Division of Air Quality
DENR	Department of Environment and Natural Resources
EPA	U.S. Environmental Protection Agency
FSC	Forest Stewardship Council
g	gram
НАР	Hazardous Air Pollutant
hp	horsepower
ICE	Internal Combustion Engine
lb	Pound
kW	kilowatt
MACT	Maximum Achievable Control Technology
MMBtu	Million British thermal units
NAAQS	National Ambient Air Quality Standards
NCAC	North Carolina Administrative Code
NESHAP	National Emission Standards for Hazardous Air Pollutants
NMHC	Non-methane Hydrocarbons
NNSR	Nonattainment New Source Review
NOx	Nitrogen Oxides (NO + NO <sub>2</sub> )
NSPS	New Source Performance Standards
NSR	New Source Review
ODT	Oven Dried Tons
PEFC	Programme for the Endorsement of Forest Certifications
PM	Particulate Matter

PM <sub>2.5</sub>	Particulate Matter Less Than 2.5 Micrometers in Aerodynamic Diameter
PM10	Particulate Matter Less Than 10 Micrometers in Aerodynamic Diameter
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
PSEU	Pollutant Specific Emission Unit
RICE	Reciprocating Internal Combustion Engine
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
SFI	Sustainable Forestry Initiative
ТАР	Toxic Air Pollutant
tph	tons per hour
tpy	tons per year
USEPA	US Environmental Protection Agency
VOC	Volatile Organic Compounds
WESP	Wet Electrostatic Precipitator

### 1. INTRODUCTION

Enviva Pellets Sampson, LLC (Enviva) constructed a wood pellets manufacturing plant (the "Facility") in Sampson County, North Carolina under the authorization of Prevention of Significant Deterioration (PSD) Permit No. 10386R00 issued by the North Carolina Department of Environment and Natural Resources (DENR), Division of Air Quality (now the NC Department of Environmental Quality, Division of Air Quality or "DAQ") on November 17, 2014 January 6, 2015.<sup>1</sup> The plant began operation on October 3, 2016. The plant is permitted to produce up to 537,625 oven-dried tons (ODT) per year of wood pellets utilizing up to 75% softwood on a 12-month rolling total basis. The plant consists of a log chipper, green wood hammermills, bark hog, rotary dryer, hammermills, pellet presses and coolers, production loading operations and other ancillary activities.

The Sampson plant is a major source with respect to the Title V Operating Permit Program because facility-wide emissions of one or more criteria pollutants exceed the major source threshold of 100 tons per year (tpy). Additionally, the plant is considered a major source of hazardous air pollutants (HAP) due to total HAP emissions exceeding the major source threshold of 25 tpy. Enviva is submitting this application to obtain an initial Title V permit for the Sampson plant pursuant to 15A North Carolina Administrative Code (NCAC) 02Q.0507(a) which requires that an application be submitted within one year from the date a source begins operation. This permit application incorporates all equipment permitted for construction under Enviva's PSD permit with the exception of the eight (8<sup>th</sup>) hammermill. Enviva only installed seven (7) of the eight (8) hammermills permitted under PSD Permit No. 10386R03.

A description of the process and methodologies used to quantify potential emissions is provided in Section 2. Section 3 describes the applicability of federal and state permitting programs. Section 4 includes a detailed applicability analysis of both federal and state regulations.

<sup>&</sup>lt;sup>1</sup> Permit Nos. 10386R01, 10386R02 and 10386R03 were subsequently issued on January 6, 2015, January 27, 2016 and April 7, 2017.

### 2. PROCESS DESCRIPTION AND POTENTIAL EMISSIONS QUANTIFICATION

Enviva manufactures wood pellets for use as a renewable fuel for energy generation and industrial customers. Enviva's customers use wood pellets in place of coal, significantly reducing emissions of pollutants such as carbon dioxide, mercury, arsenic and lead. The company is dedicated to improving the environmental profile of energy generation while promoting sustainable forestry in the southeastern United States. Enviva holds certifications from the Forest Stewardship Council (FSC), Sustainable Forestry Initiative (SFI) and the Programme for the Endorsement of Forest Certifications (PEFC). Enviva requires that all suppliers adhere to state-developed "Best Management Practices" (BMPs) in their activities to protect water quality and sensitive ecosystems. In addition, Enviva is implementing an industry leading "track and trace" system to further ensure that all fiber resources come from responsible harvests. Enviva pays particular attention to: land use change, use and effectiveness of BMPs, wetlands, biodiversity, and certification status. All of this combined ensures that Enviva's forestry activities contribute to healthy forests both today and in the future. The following sections describe each of the emission sources at the Sampson plant and the methodologies used to calculate their potential emissions. An area map and process flow diagram are provided in Appendices A and B, respectively.

### 2.1 Green Wood Handling and Storage

"Green" (i.e., wet) wood is delivered to the plant via trucks as either pre-chipped wood or unchipped low grade wood fiber, tops, limbs, and logs from commercial thinning for on-site chipping. Pre-chipped wood is screened and oversized chips undergo additional chipping. Unchipped wood is debarked and chipped to specification for drying in the on-site electricpowered debarker (IES-DEBARK-1), chipper (ES-CHIP-1), and three (3) green wood hammermills (ES-GHM-1 through ES-GHM-3) as required. A more detailed description of these process operations is included in Section 2.2 below. Chipped wood for drying is conveyed to a chipped wood storage pile while bark is conveyed to a bark fuel storage pile (IES-GWFB).

Green wood and bark contain a high moisture content approaching 50 percent water by weight. Therefore, green wood handling and sizing have insignificant particulate matter (PM) emissions. Representative drop point emission calculations for green wood handling and sizing based on AP-42 Section 13.2.4 *Aggregate Handling and Storage Piles* are included in Appendix C.<sup>2</sup> Per 15A NCAC 02Q .0503, green wood handling (IES-GWHS) and dried wood (bark) handling (IES-DWHS) are included on the insignificant activities list because potential PM emissions are less than 5 tons per year (tpy) when uncontrolled.

Emission calculations for fugitive PM from chipped wood storage piles are also provided in Appendix C. Emission factors were developed based on the surface area of the storage piles in accordance with U.S. Environmental Protection Agency (EPA) guidance for active storage pile fugitive emissions.<sup>3</sup> These factors provide estimates of PM emissions due to wind erosion at the surface of each storage pile based on the annual frequency of high wind speeds (> 12 miles per hour).

<sup>&</sup>lt;sup>2</sup> U.S. EPA AP-42 Section 13.2.3 Aggregate Handling and Storage Piles, (11/06).

<sup>&</sup>lt;sup>3</sup> U.S. EPA *Control of Open Fugitive Dust Sources*, Research Triangle Park, North Carolina, EPA-450/3-88-008. September 1988.

In addition to PM emissions, volatile organic compounds (VOC) are also emitted from the storage piles. Emission factors were obtained from a National Council for Air and Stream Improvement (NCASI) document for the calculation of fugitive VOC emissions from woody biomass storage piles. Emission factors range from 1.6 to 3.6 pounds (lb) VOC as carbon/acre-day; however, emissions were conservatively based on the maximum emission factor. Detailed calculations are included in Appendix C. Per 15A NCAC 02Q .0503, these sources are also insignificant and are listed as insignificant activities IES-GWSP-1 and -2.

### 2.2 Debarking, Chipping, Green Wood Hammermills, and Bark Hog

Bark is removed from unchipped wood prior to chipping in the rotary drum debarker. There are currently no AP-42 emission factors or other emission factors available for debarkers, and visual observations of these units in operation indicate that emissions are negligible due to the high moisture content of bark and containment of emissions provided by the drums.

Emission estimates for the chipper and bark hog are based on limited emission factors available for wood chipping. As shown in Appendix C, VOC emissions from these sources are calculated using emission factors from AP-42 Section 10.6.3 *Medium Density Fiberboard Manufacturing* for hardwood chipping.<sup>4</sup> Methanol emissions are also calculated using emission factors from AP-42 Sections 10.6.4 *Hardboard and Fiberboard.*<sup>5</sup> PM emissions are negligible from the chipper (ES-CHIP-1) and the bark hog (ES-BARKHOG) because the exhaust is directed downward towards the ground.

VOC emission estimates for the green wood hammermills (ES-GHM 1, 2, and 3) are derived from Enviva's Wiggins, MS plant stack test emission factors and the green wood hammermill throughput. PM emissions from the green wood hammermills are based on air flow rate and a bin vent outlet PM grain loading factor of 0.004 gr/ft<sup>3</sup>.

### 2.3 Dryer

Green wood is conveyed to a single rotary dryer system (ES-DRYER). Direct contact heat is provided to the system via a 250.4 million British thermal unit per hour (MMBtu/hr) total heat input burner system using bark and wood chips as fuel. Emissions are controlled by four (4) identical cyclones which capture bulk PM. Emissions from each of the cyclones are combined into a common duct and are routed to a wet electrostatic precipitator (WESP) for additional particulate, metallic HAP, and hydrogen chloride removal.

Criteria pollutant emissions are calculated using a combination of AP-42 emission factors from Section 1.6 *Wood Residue Combustion in Boilers*<sup>6</sup> and existing stack testing results from Enviva's Ahoskie and Wiggins facilities. Refer to Appendix C for details regarding specific emission factors.

HAP and toxic air pollutant (TAP) emissions from combustion of wood in the dryer are calculated based on emission factors from AP-42 Section 1.6 and consider control of metallic HAP emissions by the WESP. In addition to HAP and TAP emissions from combustion of wood in the dryer, HAPs and TAPs are also released during the drying of wood. Emission factors for green, direct wood-fired softwood are based on results from Enviva's Wiggins, MS plant stack

Process Description and Potential Emissions Quantification

<sup>&</sup>lt;sup>4</sup> U.S. EPA AP-42 Section 10.6.3 Medium Density Fiberboard Manufacturing, (8/02).

<sup>&</sup>lt;sup>5</sup> U.S. EPA AP-42 Section 10.6.4 Hardboard and Fiberboard, (10/02).

<sup>&</sup>lt;sup>6</sup> U.S. EPA AP-42 Section 1.6 Wood Residue Combustion in Boilers, (9/03).

testing results from 2013. Refer to Appendix C for detailed documentation of emission factors.

### 2.4 Dried Wood Handling

Dried materials are transferred from the dryer via conveyors to screening operations that remove smaller size wood particles prior to transfer into hammermills for further size reduction prior to pelletization. Smaller particles passing through the screens are diverted to the hammermill discharge conveyor, while oversized wood is diverted to the hammermills. Dust generated from transfer operations around the screening operation is diverted to the hammermill area filtration system, which is described in the following subsection. There are several other transfer points comprising emission source ES-DWH that are located between the dryer and hammermills. These sources are completely enclosed with only two (2) emission points that are controlled by individual bin vents. The bin vent PM emissions are calculated using a manufacturer-guaranteed grain loading factor for the wood particulates and the maximum nominal flow rate.

### 2.5 Hammermills

Prior to pelletization, dried wood is reduced to the appropriate size using seven (7) hammermills operating in parallel (ES-HM1 through ES-HM7). A conveyor system receives the ground wood from the hammermills and sends it to the pellet mill feed silo (ES-PMFS).

Particulate emissions from each of the seven (7) hammermills are controlled using seven (7) individual cyclones, which are subsequently controlled by seven (7) individual fabric filters. Appendix C summarizes the emissions from each hammermill bagfilter system.<sup>7</sup> PM emissions from each bagfilter are calculated using a manufacturer-guaranteed exit grain loading rate and the maximum nominal exhaust flow rate.

VOC, HAP, and TAP emissions are calculated based on Enviva's Wiggins, MS and Amory, MS plant stack testing data as shown in Appendix C.

### 2.6 Hammermill Area

An induced draft fan is used to transfer dust generated from a number of enclosed transfer/handling sources around the hammermill to the pellet fines bin (ES-PFB) which is then controlled by a bagfilter (CD-PFB-BV). Sources controlled by the bagfilter on the pellet fines bin include, but are not limited to, the following:

- Hammermills infeed and distribution transfer;
- Hammermills cyclone and bagfilter drop out;
- Pellet cooler transfer (particulate emissions from pellet cooler cyclones large enough to drop out of entrainment) and pellet screening;
- Hammermill pre-screen feeder emissions;
- Pellet screen fines cyclone; and
- Pellet fines bin emissions.

<sup>&</sup>lt;sup>7</sup> Note, Enviva's decision to install only seven (7) rather than eight (8) permitted hammermills results in slightly lower potential PM emissions and no change in VOC or HAP emissions, as these were based on permitted production.

Emissions from this bagfilter are calculated assuming a manufacturer guaranteed exit grain loading rate and the maximum nominal exhaust flow rate.

### 2.7 Pellet Mill Feed Silo

Sized wood from the hammermills is transported by a set of conveyors to the pellet mill feed silo (ES-PMFS) prior to pelletization. Particulate emissions from the pellet mill feed silo bin vent filter (CD-PMFS-BV) are calculated assuming a manufacturer-guaranteed exit grain loading rate and the maximum nominal exhaust flow rate.

### 2.8 Pellet Press System Pellet Coolers

Dried ground wood is mechanically compacted in the presence of water in several screw presses in the Pellet Press System. Exhaust from the Pellet Press System and Pellet Presses conveyors are vented through the cooler aspiration cyclones and then to the atmosphere. No chemical binding agents are needed for pelletization.

Formed pellets are discharged into one of six (6) pellet coolers. Cooling air is passed through the pellets. At this point, the pellets contain a small amount of wood fines which are swept out with the cooling air and are controlled utilizing six (6) cyclones operating in parallel prior to discharge to the atmosphere. The recirculation exhaust on the pellet coolers (ES-PCLR1 through ES-PCLR6) is routed to a bin vent that collects the fines from the cyclones so it can be transferred to be reused in the process.

PM emissions from each cyclone and the recirculation bin vent are calculated assuming a maximum exit grain loading rate and the maximum nominal exhaust flow rate. VOC, HAP, and TAP emissions are calculated using Enviva's Wiggins, MS plant stack testing data. Refer to Appendix C for detailed documentation.

### 2.9 Pellet Sampling Transfer Bin

Pelletized wood is transferred from the pellet coolers to the truck loadout operations via conveyor. The pellet sampling transfer bin vent filter (ES-PSTB) controls emissions from that conveyor. Particulate emissions from the pellet sampling transfer bin vent filter are calculated assuming a manufacturer guaranteed exit grain loading rate and the maximum nominal exhaust flow rate.

### 2.10 Finished Product Handling and Loadout

Final product is conveyed to truck loadout pellet bins (ES-PB1 and ES-PB2) that feed truck loadout operations (ES-PL) or trucks, if needed. Emissions from the Pellet Loadout Bins are controlled by a bagfilter. Pellet loadout is accomplished by gravity feed of the pellets through a covered chute to reduce emissions. Emissions to the atmosphere from pellet loadout are minimal because dried wood fines have been removed in the pellet screener, and a slight negative pressure is maintained in the loadout building as a fire prevention measure to prevent any buildup of dust on surfaces within the building. Slight negative pressure is produced via an induced draft fan that exhausts to the same bagfilter (CDFPH) that controls minor dust emissions from loading of the Pellet Loadout Bins.

Particulate emissions from finished product handling and loadout are calculated assuming a manufacturer-guaranteed exit grain loading rate and the maximum nominal exhaust flow rate for the bagfilter.

### 2.11 Emergency Generator and Fire Water Pump Fuel Oil Storage Tanks

The plant includes a 536 brake horsepower (hp) diesel-fired emergency generator (ES-EG) for emergency operations and a 131 brake hp diesel-fired fire water pump engine (ES-FWP). Aside from maintenance and readiness testing, the generator and fire water pump engines are only utilized for emergency operations. Criteria pollutant emissions from the engines are calculated based on applicable emission limits from 40 Code of Federal Regulations (CFR) Subpart 60 New Source Performance Standards (NSPS) Subpart IIII, *Stationary Compression Ignition Internal Combustion Engines*. HAP emissions are calculated based on emission factors from AP-42 Section 3.3 *Gasoline and Diesel Industrial Engines*.<sup>8</sup>

Diesel for the emergency generator is stored in a storage tank of up to 2,500 gallons capacity (TK1) and diesel for the fire water pump is stored in a storage tank of up to 1,000 gallons capacity (TK2). Emissions from both storage tanks are estimated to be 1.6 pounds per year and are listed as insignificant sources in the permit. VOC emissions from the diesel storage tanks were calculated using EPA's TANKS software.

<sup>&</sup>lt;sup>8</sup> U.S. EPA Section 3.3 *Gasoline and Industrial Engines*, (10/96).

### 3. STATE AND FEDERAL PERMITTING APPLICABILITY

The Enviva Sampson plant is subject to federal and state air quality permitting requirements. The following sections summarize potentially applicable federal and state permitting programs.

### 3.1 Federal Permitting Programs

The federal New Source Review (NSR) permitting program includes requirements for construction of new sources and modifications to existing sources while the Title V Operating Permit Program includes requirements for operation of facilities considered major sources. The following sections discuss applicability of these federal permitting programs to the Sampson plant.

### 3.1.1 New Source Review

Construction of new emission sources and modifications to existing emission sources are subject to requirements under NSR if a significant net emissions increase will occur as a result of a proposed project. The NSR permitting program is comprised of two separate permitting programs that apply depending on whether the facility is located in an area designated as attainment or nonattainment with the National Ambient Air Quality Standards (NAAQS). Prevention of Significant Deterioration (PSD) potentially applies if the facility is located in an attainment area and Nonattainment NSR (NNSR) is potentially applicable for facilities located in nonattainment areas. The federal NSR permitting program is implemented in North Carolina in 15A NCAC 2D.0530.

The Sampson plant is located in Sampson County which is currently classified as attainment or unclassifiable for all pollutants.<sup>9</sup> The Sampson plant is an existing major source with respect to the PSD permitting program because facility-wide potential emissions of one or more regulated pollutants exceed the major source threshold of 250 tpy. Any future changes at the plant will need to undergo a PSD applicability analysis. No changes are proposed as part of this submittal.

This permit application incorporates all equipment permitted for construction under Enviva's PSD permit with the exception of the eight (8<sup>th</sup>) hammermill. Enviva only installed seven (7) of the eight (8) hammermills permitted under PSD Permit No. 10386R03. As discussed above, installation of only seven (7) of the eight (8) permitted hammermills results in slightly lower potential PM emissions and no change in VOC or HAP emissions, as these were based on permitted production. As such, installation of only seven (7) hammermills results is no impact to past PSD modeling or BACT analyses.

### 3.1.2 Title V Operating Permit Program

The federal Title V Operating Permit program is set forth in 40 Code of Federal Regulations (CFR) Part 70 and is implemented in North Carolina via 15A NCAC 2Q.0500. The Sampson plant is a major source with respect to the Title V Operating Permit Program because facility-wide emissions of one or more criteria pollutants exceed the major source threshold of 100 tpy. Additionally, the plant is considered a major source of HAP due to total HAP emissions exceeding the major source threshold of 25 tpy. Enviva is submitting this application for an

<sup>&</sup>lt;sup>9</sup> https://www3.epa.gov/airquality/greenbook/anayo\_nc.html

initial Title V permit pursuant to 15A NCAC 02Q.0507(a) which requires that an application be submitted within one year from the date a source begins operation.

### 3.2 North Carolina Permitting Program

П Л Л 15A NCAC 02Q.0300 and 02Q.500 include specific requirements for permitting of construction and operation of new and modified sources in accordance with North Carolina's State Implementation Plan (SIP). Enviva is subject to the Title V procedures under 15A NCAC 02Q.0500 and is thus submitting this application to NC DAQ. The required application forms are included as Appendix D.

### 4. **REGULATORY APPLICABILITY**

The Sampson plant is subject to federal and state air quality regulations. The following addresses all potentially applicable regulations.

### 4.1 New Source Performance Standards

New Source Performance Standards (NSPS) apply to new and modified sources and require sources to control emissions in accordance with standards set forth at 40 CFR Part 60. NSPS standards in 40 CFR Part 60 have been incorporated by reference in 15A NCAC 02D.0524.

### 4.1.1 40 CFR 60 Subpart A ~ General Provisions

All sources subject to a NSPS are subject to the general requirements under Subpart A unless excluded by the source-specific subpart. Subpart A includes requirements for initial notification, performance testing, recordkeeping, monitoring, and reporting. Subpart A is applicable because the emergency generator and fire water pump are subject to NSPS Subpart IIII.

### 4.1.2 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

NSPS Subpart IIII applies to owners or operators of compression ignition (CI) internal combustion engines (ICE) manufactured after April 1, 2006 that are not fire pump engines, and fire pump engines manufactured after July 1, 2006. The 536 hp emergency generator and 131 hp fire pump at the Sampson plant are subject to NSPS Subpart IIII.

Under NSPS Subpart IIII, owners and operators of emergency generators manufactured in calendar year 2007 or later with a maximum engine power greater than or equal to 50 hp are required to comply with the emission limits in §60.4205(b). These limits are as follow for a 536 hp engine: 0.20 grams per kilowatt (g/kW) for PM, 3.5 g/kW for carbon monoxide (CO), and 4 g/kW for oxides of nitrogen (NO<sub>x</sub>) + nonmethane hydrocarbons (NMHC).

Enviva purchased an engine certified to meet the referenced emission limits in accordance with §60.4211(c) and complies with the applicable emission limits by operating the emergency generator as instructed in the manufacturer's operating manual in accordance with §60.4211(a). The engine is equipped with a non-resettable hour meter in accordance with §60.4209(a). Emergency and readiness testing of the unit is limited to 100 hours per year.

In accordance with NSPS Subpart IIII, owners and operators of fire pump engines manufactured after July 1, 2006 must comply with the emission limits in Table 4 of NSPS Subpart IIII, which are organized based on the size of the unit. These limits are as follow: 0.30 g/kW for PM, 5.0 g/kW for CO, and 4 g/kW for NO<sub>x</sub> + NMHC.

Enviva purchased an engine certified to meet the referenced emission limits in accordance with §60.4211(b) and complies with these emission limits by operating the fire pump as instructed in the manufacturer's operating manual in accordance with §60.4211(a). The engine is equipped with a non-resettable hour meter in accordance with §60.4209(a). Emergency and readiness testing of the fire pump engine is limited to 100 hours per year.

The emergency generator and fire pump are required to comply with the fuel requirements in §60.4175.3, which limits sulfur to a maximum of 15 parts per million by weight (ppmw) and a cetane index of at least 40.

### 4.2 National Emission Standards for Hazardous Air Pollutants

National Emission Standards for Hazardous Air Pollutants (NESHAP) regulate HAP emissions and are applicable to certain major and area sources of HAP. NESHAP can be found in 40 CFR Part 63 and have been incorporated by reference in 15A NCAC 02D.1111. As previously discussed, the Sampson plant is considered a major source of HAP due to facility-wide HAP emissions exceeding 25 tpy for total HAP.

### 4.2.1 40 CFR 63 Subpart A – General Provisions

All sources subject to a NESHAP are subject to the general requirements under Subpart A unless excluded by the source-specific subpart. Subpart A includes requirements for initial notification, performance testing, recordkeeping, monitoring, and reporting. Since the emergency generator and fire pump are subject to Subpart ZZZZ, Subpart A is also applicable to these sources.

### 4.2.2 40 CFR 63 Subpart B – Requirements for Control Technology Determinations for Major Sources in Accordance with Clean Air Act Sections 112(g) and 112(j)

As previously described, the Sampson plant is a major source of HAP emissions. Clean Air Act (CAA) Section 112(g) requires that any new stationary source that does not belong to a regulated "source category" for which a NESHAP has been promulgated must control emissions to levels that reflect "maximum achievable control technology" (MACT). Because Wood Pellet Manufacturing Plants are not a regulated source category, the Sampson plant is subject to 112(g) and underwent case-by-case MACT as part of the PSD construction permitting process. NC DAQ concluded that case-by-case MACT for the Dryer is use of lower emitting materials (i.e., limitation on softwood) and process design. Metals and metallic HAP emissions associated with combustion of wood fuel in the dryer furnace are well-controlled through use of the WESP.

Other sources of HAP emissions at the plant include the following:

- Green wood hammermills (ES-GHM1 through ES-GHM3) with bin vent control,
- Seven (7) hammermills (ES-HM1 through ES-HM7) and hammermill area (ES-HMA) controlled by bagfilters, and ,
- Twelve (12) wood pellet presses and six (6) pellet coolers controlled by cyclones (ES-CLR1 through ES-CLR6).

For these sources, MACT was determined to be use of PM control technologies and maintenance of equipment in accordance with manufacturer's specifications and/or standard industry practices.

### 4.2.3 40 CFR 63 Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines

Subpart ZZZZ applies to reciprocating internal combustion engines (RICE) located at a major or area source of HAP emissions. Emergency power and limited use units are subject to requirements under §63.6590(b)(i) and §63.6590(b)(ii). Emergency stationary RICE are defined in §63.6675 as any stationary RICE that operates in an emergency situation. These situations include engines used for power generation when power from the local utility is interrupted, or when engines are used to pump water in the case of fire or flood. The Sampson plant emergency generator and emergency fire pump are classified as emergency stationary RICE under Subpart ZZZZ and comply with the requirements of Subpart ZZZZ by complying with NSPS Subpart IIII per §63.6590(c).

### 4.3 Compliance Assurance Monitoring

Compliance Assurance Monitoring (CAM) under 40 CFR 64 is applicable to emission units located at a Title V major source that use a control device to achieve compliance with an emission limit and whose pre-controlled emissions exceed the major source thresholds. A CAM plan is required to be submitted with the Initial Title V operating permit application for emission units whose post-controlled emissions exceed the major source thresholds (i.e., large pollutant-specific emission units [PSEU]).<sup>10</sup> For emission units with post-controlled emissions below the major source thresholds, a CAM plan must be submitted with the first Title V permit renewal application.<sup>11</sup>

The Dryer is subject to a PM emission limit under 15A NCAC 02D .0515 and emissions are controlled by four (4) cyclones and a WESP; however, post-controlled PM emissions are below the major source threshold. As such, a CAM plan for the Dryer is not required to be submitted until the first Title V permit renewal application is submitted. A control device is not utilized to meet the Dryer's CO, VOC, or NO<sub>x</sub> emission limits.

All other emission units at the Sampson plant have pre-controlled emissions below the major source threshold and/or do not use a control device as defined in §64.1. For those with control devices, the post-controlled emissions are below the major source threshold and thus, if CAM is applicable, it will not need to be addressed until the first Title V permit renewal application.

### 4.4 North Carolina Administrative Code

The Sampson plant sources are subject to regulations contained within 15A NCAC 02D and 02Q. Potentially applicable regulations are addressed below.

### 4.4.1 15A NCAC 02D .0515 Particulates from Miscellaneous Industrial Processes

PM emissions from all emission sources subject to permitting are regulated under 15A NCAC 02D .0515. This regulation limits particulate emissions based on process throughput using the equation  $E = 4.10 \times P^{0.67}$ , for process rates (P) less than 30 tons per hour (tph) and  $E=55 \times P^{0.11}$ -40 for process rates greater than 30 tph.

All emissions from PM sources at the Sampson plant are either negligible or controlled by cyclones, bahouses, or filters.

### 4.4.2 15A NCAC 02D .0516 Sulfur Dioxide Emissions from Combustion Sources

Emissions of SO<sub>2</sub> from combustion sources cannot exceed 2.3 pounds of SO<sub>2</sub> per MMBtu input. The emergency generator and fire pump fire low sulfur diesel and the dryer combusts bark and wood chips, resulting in SO<sub>2</sub> emissions well below the limit of 2.3 lb/MMBtu.

### 4.4.3 15A NCAC 02D .0521 Control of Visible Emissions

For sources manufactured after July 1, 1971, visible emissions cannot exceed 20 percent opacity when averaged over a six-minute period except under the following conditions:

No six-minute period exceeds 87 percent opacity,

<sup>&</sup>lt;sup>10</sup> §64.5(a)

<sup>&</sup>lt;sup>11</sup> §64.5(b)

- No more than one six-minute period exceeds 20 percent opacity in any hour, and
- No more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

This rule applies to all processes that may have visible emissions.

### 4.4.4 15A NCAC 02D .0540 Particulate from Fugitive Dust Emission Sources

15A NCAC 02D .0540 requires a fugitive dust control plan be prepared if ambient monitoring or air dispersion modeling show violation or a potential for a violation of the PM NAAQS, or if NC DAQ observes excess fugitive dust emissions from the facility beyond the property boundary for six (6) minutes in any one hour using EPA Method 22. Previous dispersion modeling for the Sampson plant does not show a violation or the potential for a violation of the PM<sub>10</sub> or PM<sub>2.5</sub> NAAQS. As such, a fugitive dust control plan is not required at this time.

### 4.4.5 15A NCAC 02D .1100 Control of Toxic Air Pollutant Emissions

A TAP permit application is required to include an evaluation of the TAP emissions from a facility's sources, excluding exempt sources listed under 15A NCAC 02Q .0702(a)(18). This regulation outlines the procedures that must be followed if modeling is required under 15A NCAC 02Q .0700. Previously, toxics modeling was conducted for the PSD construction permit "as an informative conservative exercise". Per 15A NCAC 02Q.0702(27)(B) and (C), sources subject to 40 CFR 63 or case-by-case MACT are exempt from the requirement to obtain a permit to emit TAP. All sources of TAP emissions at the Sampson plant are subject to 40 CFR 63 or have undergone case-by-case MACT. As such, no modeling for TAPs is required. Previous modeling submittals for arsenic, benzo(a)pyrene, cadmium, chlorine, formaldehyde, hexachlorodibenzo-p-dioxin 1,2,3,6,7,8, hydrochloric acid, manganese and compounds, and vinyl chloride have demonstrated that modeled TAP impacts from the Sampson plant are well below the Acceptable Ambient Levels (AAL). Because TAP modeling is not required as a case-by-case MACT source, no further TAP modeling is warranted for this application.

### 4.4.6 15A NCAC 02Q .0700 Toxic Air Pollutant Procedures

This regulation requires that certain new and modified sources of toxic air pollutants with emissions exceeding specified de minimis values apply for an air toxics permit. Previous modeling of the Sampson plant demonstrated that the plant will not present an unacceptable risk. No changes are proposed as part of this application; therefore, no further TAP modeling is warranted as part of this submittal.

### 4.4.7 15A NCAC 2Q .0702 Air Toxics Exemption

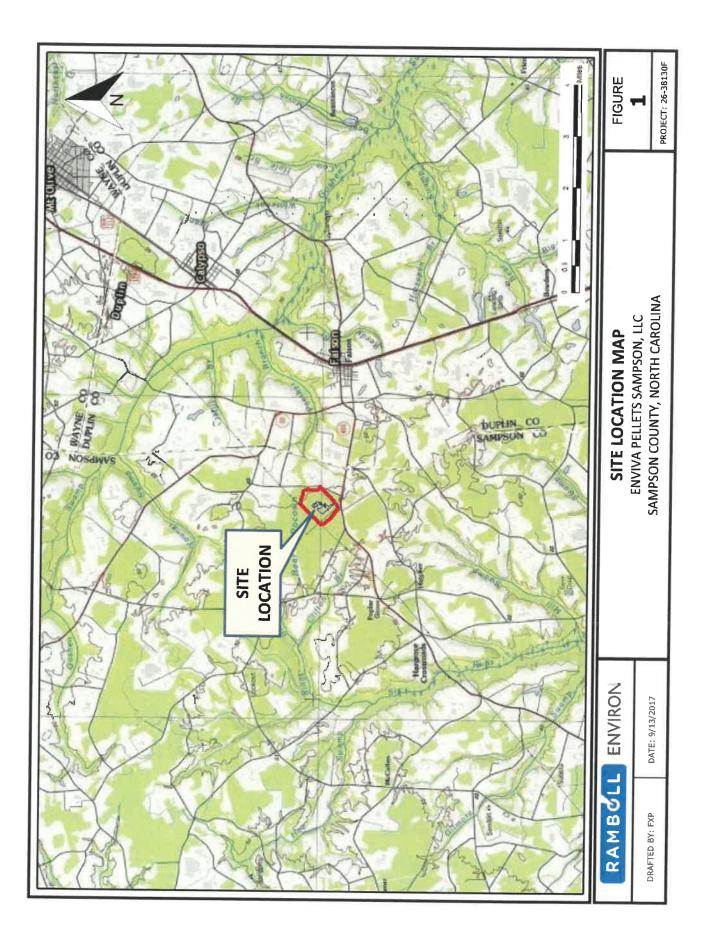
As discussed above, 15A NCAC 02Q .0702 exempts Part 63 NESHAP-affected sources from NC air toxics requirements. Because Enviva is subject to NESHAP Subpart B, 112(g) §63.40-§63.44 for the Sampson plant, and the emergency engine and fire pump are subject to Subpart ZZZZ, *NESHAP for Stationary Reciprocating Internal Combustion Engines*, all sources are exempt from air toxics review. For informational purposes, Enviva previously evaluated compliance with NC air toxics limits and determined through dispersion modeling that all AALs as listed in 15A NCAC 02D.1100 are met (see Section 4.4.5). As such, Enviva has demonstrated that there is no unacceptable risk associated with the Sampson plant. No changes are requested as part of the application; therefore, no TAP modeling is included with this submittal.

Application for Initial Title V Permit Enviva Pellets Sampson, LLC Sampson County, North Carolina

### APPENDIX A AREA MAP

Ramboll Environ

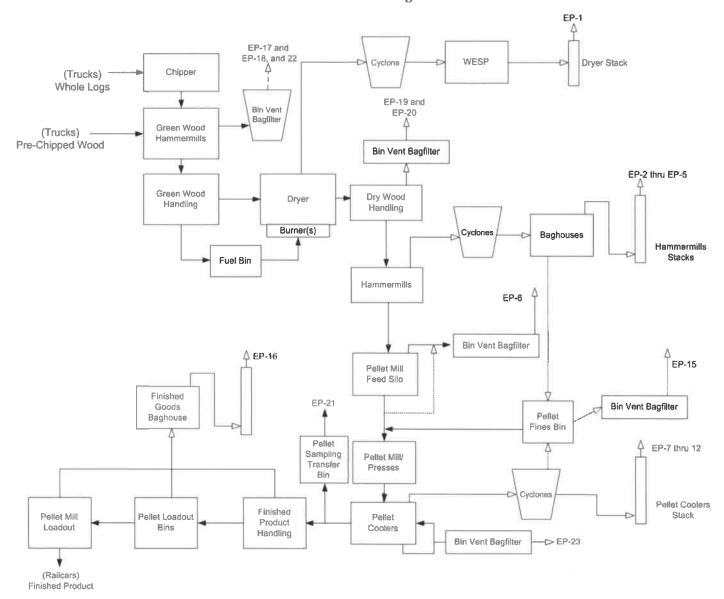




Application for Initial Title V Permit Enviva Pellets Sampson, LLC Sampson County, North Carolina

APPENDIX B PROCESS FLOW DIAGRAM

Ramboll Environ



**Process Flow Diagram** 

Application for Initial Title V Permit Enviva Pellets Sampson, LLC Sampson County, North Carolina

### APPENDIX C POTENTIAL EMISSIONS CALCULATIONS

### TABLE C-1 FACILITY-WIDE EMISSIONS SUMMARY ENVIVA PELLET SAMPSON, LLC

Source Description	Unit ID	CO (tpy)	NO <sub>X</sub> (tpy)	TSP (tpy)	PM <sub>10</sub> (tpy)	PM <sub>2.5</sub> (tpy)	SO <sub>2</sub> (tpy)	VOC (tpy)	Pb (tpy)	CO <sub>2e</sub> (tpy)	CO <sub>2e blomass</sub> 1 deferral (tpy)
Dryer System	ES-DRYER	230	219	51.5	51.5	51,5	27.4	288	0.00E+00	229,828	3,064
Emergency Generator	ES-EG	0.77	0,88	0.04	0.04	0.04	0.0005	0.88	-	143	143
Fire Water Pump	ES-FWP	0.27	0.22	0.02	0.02	0.02	0.0001	0.22	-	35	35
Hammermills	ES-HM-1 thru 7	-	-	15.8	15.8	0,27	-	34.4	-	-	-
Pellet Mill Feed Silo	ES-PMFS	-	-	0.37	0.37	0.37	-	-	-	-	-
Pellet Mill Fines Bin/ Hammermill Area	ES-PFB, ES-HMA	-	-	0.47	0.47	0.47	-	-	-		-
Pellet Presses and Coolers	ES-CLR1 thru -6	-	-	74,3	19.4	2.37	-	228	-	-	-
Log Bark Hog	ES-BARKHOG							0.37			
Log Chipping	ES-CHIP-1	-	-	32			-	1.25	-	-	-
Green Wood Hammermills	ES-GHM-1, ES-GHM-2, ES- GHM-3	-		6.76	6.76	6.76	-	72.2	-	-	-
Finished Product Handling/ Pellet Loadout Bins/ Pellet Loadout Area	ES-FPH/ ES-PL/ ES-PB-1 & 2	-	-	1.28	1.16	0.02	-	-	-	-	
Paved Roads		-	-	2.42	0.48	0.12	8	-	-	-	
Dried Wood Handling	ES-DWH			0.30	0.30	0.30					
Pellet Sampling Transfer Bin	ES-PSTB			0.15	0.15	0.15					
Pellet Cooler Recirculation	ES-PCR			0.15	0.15	0.15					
Green Wood Sizing & Handling	IES-GWH	<u>ವಾ</u>	-	0.016	0.008	0.001	÷	-	-	-	-
Green Wood Storage Piles	IES-GWSP1 & 2	243	-	4.01	2.00	0.30	×	2.93	×		-
Diesel Storage Tanks	TK1 & TK2	-	-	-	-	-	-	4.00E-03	-	-	-
	Total Emissions	231	220	158	98.6	62.9	27.4	628	0.00E+00	230,006	3,242

1. CO2e does not include CO2 from biomass combustion.

### TABLE C-2 FACILITY-WIDE HAP EMISSIONS SUMMARY ENVIVA PELLET SAMPSON, LLC

scription	ES-DRYER	ES-EG	ES-FWP	ES-HM-1 through 7	ES-CLR-1 through 6	ES-BARKHOG	ES-CHIP-1	ES-GHM-1 & 2	Total
	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
1,3-Butadiene	-	3.67E-05	8.96E-06			_			
Acetaldehyde	6.520	7.19E-04	1.76E-04	0.645	2.075			-	0.00
Acetophenone	0.000			0.045	2.075			1.853	11.09
Acrolein	0.000	8.68E-05	2.12E-05	0.000	0.000			-	0.00
Antimony & Compounds	0.001			0.000	0,000		-	0.000	0.00
Arsenic & Compounds	0.002								0.00
Benzene		8.75E-04	2.14E-04					<u></u>	0.00
Beryllium metal (un-reacted) (Also include in BEC)	0.000	-	-					18	0.00
Cadmium Metal (elemental un-reacted) (Add w/CDC)	0.000				-				0.00
Carbon tetrachloride	0.049				-				0.00
Chlorine	0.866		+				-		0.05
Chlorobenzene	0.036					/a)	-	-	0.87
Chromium-Other compds (add w/chrom acid to get CRC)	0.001								0.04
Cobalt compounds	0.001					( <b>-</b> )			0.00
Chloroform	0.001				-			-	0.00
Cumene						2.41	-	-	0.00
Dinitrophenol, 2,4-	0.000	-				•	-	-	0.00
Di(2-ethylhexyl)phthalate (DEHP)	0.000				· · · · · ·	•	-	-	0.00
Ethyl benzene	0.034				· · · ·			-	0.00
Ethylene dichloride (1,2-dichloroethane)	0.034			· ·	· · · · ·		-	-	0.03
Formaldehyde	16,597		0.710.04	-	-		<u> </u>		0.03
Hydrogen chloride (hydrochloric acid)	2.084	1.11E-03	2.71E-04	1.017	1,355	-	i	1.104	20.0
Lead and Lead compounds	0.004	· ·	-	· · ·	+	-		-	2.08
mu-Xylene	0.004	-			•	-	2ê	-	0.00
Manganese & compounds	0.127	2.67E-04	6.53E-05			- '	De la	-	0.00
Manganese & compounds Mercury, vapor (Include in Mercury&Compds)	0.127				-	-		-	0.13
Meteory, valor (merade in Mereory&Compas Methanol	35,643	19 (F)	-			-		-	0.00
Methyl bromide (bromomethane`	0.016	-	-	0.484	2.098	0.079	0.269	0.821	39.39
Methyl chloride (chloromethane)			•			-			0.02
Methyl chloroform (1,1,1 trichloroethane)	0.025	-	-	•	E	-	-	-	0.03
	0.034		-	· ·		-	-	-	0.03
Methyl ethyl ketone	0.006	-			E)	(#	-	-	0.01
Methyl isobutyl ketone		*	-			(#	-	-	0.00
Methylene chloride		· · ·	· · · · · · · · · · · · · · · · · · ·						0.00
Nickel metal (Component of Nickel & Compounds)	0.003				-				0.00
Nitrophenol, 4-	0.000	*	(m)	-					0.00
o-Xylene			2.a.\					_	0.00
Pentachlorophenol	0.000	-		-	-	S1			0.00
Perchloroethylene (tetrachloroethylene	0.042	-	(¥)	-	-	-	<u>.</u>	-	0.00
Phenol	0.000		· ·	0.000	0.000	4	-	0.000	0.00
Phosphorus Metal, Yellow or White	0.002	-			-		-	-	0.00
Polychlorinated biphenyls	0.000			-			-	-	0.00
Propionaldehyde	8.840	-		0.430	0.406			0.269	9.94
Propylene dichloride (1,2 dichloropropane)	0.036	-	-	¥	(A)				0.04
Selenium compounds	0.000	-	(e)	2	197	-	-		0.00
Styrene		-	•						0.00
Tetrachlorodibenzo-p-dioxin, 2,3,7,8-	0.000			10	2.4	-	<i>2</i>		0.00
Toluene		3.84E-04	9.38E-05				-		0.00
Total PAH (POM)	0.137	1.58E-04	3.85E-05			-		-	0.00
Trichloroethylene	0.033			-			-	-	0.14
Trichlorophenol, 2,4,6-	0.000	-	-	-	-		-		0.00
Vinyl chloride	0.020	·•	-	-	(C)	_		•	0.00
TOTAL HAPs	71.19	3.63E-03	8.88E-04	2.58	5.93	0.08	0.27	4.05	84.10
MAX INDIVIDUAL HAP	Formaldehyde	Formaldehyde	Formaldehyde	Methanol	Methanol	Methanol	Methanol	Methanol	Metha
MAX INDIVIDUAL HAP VALUE	35.64	1.11E-03	2.71E-04	1.02	2,10	0.08	0,27	1.85	39,39

### TABLE C-3 ROTARY DRYER -CRITERIA POLLUTANT EMISSIONS ENVIVA PELLET SAMPSON, LLC

### **Dryer Inputs**

Dryer Throughput (@ Dryer Exit)	575,000 tons/year @ 6.5% moisture
Annual Dried Wood Throughput of Dryer	537,625 ODT/year
Hourly Dried Wood Throughput of Dryer	71.71 ODT/hr
Flow rate =	180,000 ACFM
Exit Temperature =	355.40 deg K
Standard flow rate =	148,472 SCFM
Annual Utilization Factor	100%
Burner Heat Input	250.4 MMBtu/hr
Annual Burner Heat Input at Annual Utilization	2,193,504.0 MMBtu/yr
Percent Hardwood	25%
Percent Softwood	75%

### Criteria Pollutant Calculations:

		Baseline Emission I	Factors	Prop	osed BACT Emissio	n Factor				
Pollutant	Uncontrolled Biomass	Units		Controlled Biomass	Units	Emission Factor	Baseline Er	nissions	Total Controll Emiss	
	Emission Factor		Emission Factor Source	Emission Factor		Source	(lb/hr)	(tpy)	(lb/hr)	(tpy)
CO	0,210		Note 1	0.210	lb/MMBtu	Baseline	52.61	230,5	52.61	230,5
NO <sub>x</sub>	0.200	lb/MMBtu	Note 6	0.200	lb/MMBtu	Note 6	50.08	219.4	50,08	219,4
PM/PM <sub>10</sub> /PM <sub>2.5</sub> Condensible Fraction	0.017	lb/MMBtu	AP-42 Section 1.6	0.017	lb/MMBtu	AP-42 Section 1.6	4.26	18.6	4.26	18.6
TSP (Filterable)	2.092	1b/ODT	Note 6	0.030	lb/MMBtu	NSPS emission limit	150.00	562,3	7.51	32,9
Total TSP (Filterable + Condensible)							154.26	580.9	11.77	51.5
PM10 (Filterable)	2.092	lb/ODT	Note 6	0.030	lb/MMBtu	NSPS emission limit	150.00	562.3	7,51	32.9
Total PM <sub>10</sub> (Filterable + Condensible)							154.26	580.9	11.77	51.5
PM2.5 (Filterable)	2.092	lb/ODT	Note 6	0.030	lb/MMBtu	NSPS emission limit	150,00	562.3	7.51	32.9
Total PM <sub>2.5</sub> (Filterable + Condensible)							154.26	580.9	11.77	51.5
SO <sub>2</sub>	0.025	lb/MMBtu	AP-42, Section 1.6 <sup>3</sup>	0.025	lb/MMBtu	AP-42, Section 1.6 <sup>3</sup>	6.26	27.4	6.26	27.4
VOC	1.07	lb/ODT	Note 2	1.07	lb/ODT	Baseline	76,90	288.3	76.90	288
Lead	0.00	N/A	N/A		N/A	N/A	0.00	0.0	0.00	0.0

<sup>1</sup> CO emissions are based on stack testing conducted at Ahsokie, NC facility on June 7, 2012 with a conservative safety margin on CO due to the significant variability that is possible with this pollutant.

<sup>2</sup> VOC emissions emission factor based on Vendor guarantee of 0.95 lb/ODT as propane converted to alpha -pinene and Enviva Wiggins October 2013 Stack Test Data as Total VOC as alpha-pinene using OTM 26.

<sup>3</sup> Although the vendor estimated emissions to include condensibles, additional condensibles from wood combustion AP-42, Section 1.6 were included. The vendor only provided the filterable fraction of particulate matter in the emission factors. Enviva has conservatively calculated the condensible fraction based upon the heat input of the dryer burners using an emission factor for wood combustion from AP-42, Section 1.6.

<sup>4</sup> No emission factor is provided in AP-42, Section 10.6.2 for SO<sub>2</sub> for rotary dryers. Enviva has conservatively calculated SO<sub>2</sub> emissions based upon the heat input of the dryer burners using an emission factor for wood combustion from AP-42, Section 1.6.

<sup>5</sup> Controlled filterable particulate matter emissions based on NSPS Subpart Db limit of 0.03 lb/MMBtu, which is equivalent to 0.105 lb/ODT.

<sup>6</sup> NO<sub>8</sub> and filterable PM/PM<sub>10</sub> emissions based on TSI guarrantee on 7/15/14. The PM<sub>2.5</sub> filterable emission factor is assumed to be the same as PM and PM<sub>10</sub>.

# TABLE C-4 ROTARY DRVER - HAP AND TAP EMISSIONS ENVIVA PELLET SAMPSON, LLC

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## Calculation Inputs:

Annual Composition and Throughput	t
Throughput ODT/yr	537,625
Hardwood Composition	25%
Softwood Composition	75%

## Short Term Composition and Throughput

ODT/hr	71.71
Hardwood Composition	25%
Softwood Composition	75%

## **Emission Calculations:**

					Emission Factor	Factor		
		HAP	NCTAP	VOC	Stack Tests	Fests	Potential	<b>Potential Emissions</b>
Pollatant	CAS Number	(Ves/No)	(Ves/No)	(Yes/No)	Emission Factor	Reference		
					(Ib/ODT)		(lb/hr)	(tpv)
Acetaldehyde	75-07-0	Yes	Yes	Yes	0.024	-	1.74	6.52
Acrolein	107-02-8	Yes	Yes	Yes	0.000	-	0.00	0.00
Formaldehyde	50-00-0	Yes	Yes	Yes	0.062	-	4.43	16.6
Methanol	67-56-1	Yes	No	Yes	0.133	-	9.51	35.6
Phenol	108-95-2	Yes	Yes	Yes	0.000	-	0.00	0.00
Propionaldehyde	123-38-6	Yes	No	Ycs	0.033	-	2.36	8.84
							18.0	67.6

<sup>1</sup> HAP emissions from Enviva Wiggins October 2013 Stack Testing on Dryer No. 2.

Dryer System HAP & TAP

Page 1 of 1

# TABLE C-5 HAMMERMILLS - VOC, HAP, AND TAP EMISSIONS ENVIVA PELLET SAMPSON, LLC

## **Calculation Inputs:**

		Based on 53.3% sent through Enviva Northampton site
537,625		53.3%
Total Plant Throughput ODT/yr	% of Total Throughput to the	Hammermills

Annual Composition and Throughput	
Hammermills Throughput ODT/yr	286,554
Hardwood Composition	25%
Softwood Composition	75%

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ODT/hr	38.22
Hardwood Composition	25%
Softwood Composition	75%

## **Emission Calculations:**

					Emission Factor	Factor		
		HAP	NCTAP	VOC	Stack Tests	Fests	Potential	<b>Potential Emissions</b>
Pollutant	CAS Number	(Ves/No)	(Ves/No)	(Ves/No)	Emission Factor	Reference		
					(Ib/ODT)		(lh/hr)	(10V)
Total VOC	N/A	N/A	N/A	N/A	0.240	1	9.17	34.4
Acetaldehyde	75-07-0	Yes	Yes	Yes	0.005	-	0.17	0.64
Acrolein	107-02-8	Yes	Yes	Yes	0.000	-	0.0	00
Formaldehyde	50-00-0	Yes	Yes	Yes	0.007	-	0.27	1 02
Methanol	67-56-1	Yes	No	Yes	0.0034	2	0.13	0.48
Phenol	108-95-2	Yes	Yes	Yes	0.000	_	0.0	0.0
Propionaldehyde	123-38-6	Yes	No	Yes	0.003	-	0.11	0.43
							9.17	34.4

<sup>1</sup> HAP emissions from Enviva Wiggins October 2013 Stack Testing with a throughput of 62.5% softwood.

<sup>2</sup> Total VOC emissions from Enviva Amory October 2013 Stack Testing with a throughput of 60% softwood.

TABLE C-6 PELLET PRESSES AND COOLERS - VOC, HAP, AND TAP EMISSIONS ENVIVA PELLET SAMPSON, LLC

### Calculation Inputs:

Annual Composition and Throughput	1
Throughput ODT/yr	537,625
Hardwood Composition	25%
Softwood Composition	75%

## Short Term Composition and Throughput

OD'I/hr	71.71	
Hardwood Composition	25%	
Softwood Composition	75%	

## **Emission Calculations:**

Entission Calculations;								
					Emission Factor	Factor		
		HAP	NCTAP	VOC	Stack Tests	l'ests	Potential	Potential Emissions
Pollutant	CAS Number	(Yes/No)	(Yes/No)	(Yes/Na)	Emission Factor	Reference		
					(Ib/ODT)		(lb/hr)	(tpy)
Total VOC	N/A	N/A	N/A	N/A	0.85	-	60.7	228
Acetaldehyde	75-07-0	Yes	Yes	Yes	7.72E-03	-	0.55	2.08
Acrolein	107-02-8	Yes	Yes	Yes	0.00E+00	-	0	0
Formaldehyde	50-00-0	Ycs	Yes	Yes	5.04E-03	-	0.36	1.35
Methanol	67-56-1	Yes	No	Ycs	7.80E-03	-	0.56	2.10
Phenol	108-95-2	Yes	Yes	Yes	0.00E+00		0	0
Propionaldehyde	123-38-6	Yes	No	Ycs	1.51E-03	-	0.11	0.41

<sup>1</sup> HAP emissions from Enviva Wiggins October 2013 Stack Testing with a throughput of 62.5% softwood.

228 5.93

60.7 1.58

### TABLE C-7 BAGFILTER AND CYCLONE EMISSIONS ENVIVA PELLET SAMPSON, LLC

		Filter, Vent -or-	Flowrate	Pollutant	Annual		% PM that	14			Putential	Emissions		
Emission Unit	Emission Source ID	Cyclone ID		Loading <sup>2</sup>	Operation		70 FIAL CHAL	15	P	М	PN	110	PM	2.5
		-	(cfm)	(gr/cf)	(hours)	PM <sub>10</sub>	PMIN	Reference	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Green Wood Hammermills	ES-GHM-1	CD-GHM-BV1	15,000	0.004	8,760	100.0%	100.0%		0.51	2,25	0.51	2.25	0.514	2.2
Green Wood Hammermills	ES-GHM-2	CD-GHM-BV2	15,000	0.004	8,760	100.0%	100.0%		0.51	2.25	0.51	2.25	0.514	2.2
Green Wood Hammermills	ES-GHM-3	CD-GHM-BV3	15,000	0.004	8,760	100.0%	100.0%		0.51	2.25	0.51	2,25	0.514	2.2
Hammermills Bagfilter 1	ES-HM-1	CD-HM-BF1	15,000	0.004	8,760	100.0%	1.70%	4,6	0.51	2.25	0.51	2.25	0.009	0.0
Hammermills Bagfilter 2	ES-HM-2	CD-HM-BF2	15,000	0.004	8,760	100.0%	1.70%	4,6	0.51	2.25	0.51	2.25	0.009	0.0
Hammermills Bagfilter 3	ES-HM-3	CD-HM-BF3	15,000	0.004	8,760	100.0%	1.70%	4,6	0.51	2.25	0.51	2.25	0.009	0.0
Hammermills Bagfilter 4	ES-HM-4	CD-HM-BF4	15,000	0.004	8,760	100.0%	1.70%	4,6	0.51	2.25	0.51	2.25	0.009	0.04
Hammermills Bagfilter 5	ES-HM-5	CD-HM-BF5	15,000	0.004	8,760	100.0%	1.70%	4,6	0.51	2.25	0.51	2.25	0.009	0.0
Hammermills Bagfilter 6	ES-HM-6	CD-HM-BF6	15,000	0.004	8,760	100.0%	1.70%	4,6	0.51	2.25	0.51	2.25	0.009	
Hammermills Bagfilter 7	ES-HM-7	CD-HM-BF7	15,000	0.004	8,760	100.0%	1.70%	4.6	0.51	2.25	0.51	2.23		0.0
Dry Wood Handling	Dryer Out Conv. #1	CD-DC-BV1	1,000	0.004	8,760	100%	100%	4	0.03	0.15	0.03	0,15	0.009	0.04
Dry Wood Handling	Dryer Out Conv. #2	CD-DC-BV2	1,000	0.004	8,760	100%	100%	4	0.03	0.15	0.03		0.034	0.1
Pellet Sampling Transfer Bin	ES-PSTB	CD-DC-BV3	1,000	0.004	8,760	100%	100%	4	0.03	0.15	0.03	0.15	0.034	0.1
Pellet Mill Feed Silo Bin Vent Baghouse	ES-PMFS	CD-PMFS-BV	2,444	0.004	8.760	100%	100%	4	0.03	0.15		0.15	0.034	0.1
Pellet Mill Fines Bin & Hammermill Filter	ES-PFB, ES-HMA	CD-PFB-BV	3,102	0.004	8,760	100%	100%	4	0.08	0.37	0.08	0.37	0.084	0.3
Pellet Cooler Recirculation Filter	ES-PCR	CD-PCR-BV	1,000	0.004	8,760	100%	100%	4	0.03	0.15	0.03	0,15	0.034	_
Pellet Coolers Cyclone 1	ES-CLR-1	CD-CLR-1	15,000	0.022	8,760	26.1%	3.2%	3	2.83	12.39	0.03	3.23	0.034	0.15
Pellet Coolers Cyclone 2	ES-CLR-2	CD-CLR-2	15,000	0.022	8,760	26.1%	3.2%	3	2.83	12.39	0.74			0.40
Pellet Coolers Cyclone 3	ES-CLR-3	CD-CLR-3	15,000	0.022	8,760	26.1%	3.2%	3	2.83	12.39		3.23	0.090	0,40
Pellet Coolers Cyclone 4	ES-CLR-4	CD-CLR-4	15,000	0.022	8,760	26.1%	3.2%	3	2.83		0.74	3,23	0.090	0.40
Pellet Coolers Cyclone 5	ES-CLR-5	CD-CLR-5	15,000	0.022	8,760	26.1%	3.2%	3		12.39	0.74	3.23	0.090	0,40
Pellet Coolers Cyclone 6	ES-CLR-6	CD-CLR-6	15,000	0.022	8,760	26.1%	3.2%		2.83	12.39	0,74	3.23	0,090	0.40
Pellet Loadout Bin Vent	ES-FPH, ES-PL, ES-PB-1 & 2	CD-FPH-BF	8,500	0.022	8,760			5,6	2.83	12.39	0,74	3.23	0.090	0.40
	10 111, 10 12, 10-1 D-1 0 2	CD-TTTPDF	0,300	u.004	5,750	91%	1.70%	TOTAL	0.29	1.28	0.27	1.16	0.005	0,0

<sup>1</sup> Filter, Vent, and Cyclone inlet flow rate (cfm) provided by design engineering firm (Mid-South Engineering Co.).

<sup>2</sup> Pollutant Loading (gr/cf) provided by Aircon, a control device vendor.

<sup>3</sup> Based on September 2013 Enviva Northampton Engineering Tests

 $^4$  No speciation data is available for  $\rm PM_{10}.~$  Therefore, it is assumed  $\rm PM=\rm PM_{10}.~$ 

<sup>3</sup> Finished product handling PM<sub>10</sub> speciation based on AP-42 factors for wet wood combustion (Section 1.6) controlled by a mechanical separator. Since the particle size of particulate matter from finished product handling

is anticipated to be larger than flyash, this factor is believed to be a conservative indicator of speciation.

<sup>6</sup> Dry Hammermills and Finished product handling PM23 speciation based on April 2014 Enviva Southampton PM 25 speciation tests.

# TABLE C-8 ELECTRIC POWERED CHIPPER EMISSIONS ENVIVA PELLET SAMPSON, LLC

537,625 Chipper Throughput

tons dry wood

Pollutant	Emission Factors	Emis	Emissions <sup>3</sup>
	(lb/dry wood tons)	(lb/yr)	(tpy)
PM <sup>3</sup>	N/A	0.00E+00	0,00
THC as Carbon <sup>1</sup> THC as alpha-pinene <sup>2</sup>	0.0041 0.0047	2.20E+03 2.50E+03	1.10 1.25
Methanol <sup>1</sup>	0,0010	5.38E+02	0.27

<sup>1</sup> Emission factor obtained from available emissions factors for chippers in AP-42 Section 10.6.3, Table 7

and Section 10.6.4, Tables 7 and 9. Emission factors for THC and Methanol are the same across all three tables.

 $^3$  Emission factor converted from as carbon to as alpha-pinene by multiplying by 1.14,  $^3$  PM emission factor is not applicable as emissions are routed downward to the ground.

### TABLE C-9 ELECTRIC POWERED BARKHOG EMISSIONS ENVIVA PELLET SAMPSON, LLC

Hog Throughput	157,680	tons dry wood Based on max hour	ly design throughput	of 30 tph
Pollutant	Emission Factors		ssions <sup>3</sup>	·
	(lb/dry wood tons)	(lb/yr)	(tpy)	
PM <sup>3</sup>	N/A	0.00E+00	0.00	
THC as Carbon <sup>1</sup> THC as alpha-pinene <sup>2</sup>	0.0041 0.0047	6.46E+02 7.34E+02	0.32 0.37	
Methanol <sup>1</sup>	0.0010	1.58E+02	0,08	

<sup>1</sup> Emission factor obtained from available emissions factors for chippers in AP-42 Section 10.6.3, Table 7

and Section 10.6.4, Tables 7 and 9. Emission factors for THC and Methanol are the same across all three tables.

<sup>2</sup> Emission factor converted from as carbon to as alpha-pinene by multiplying by 1.14.

<sup>3</sup> PM emission factor is not applicable as emissions are routed downward to the ground.

## GREEN HAMMERMIILLS - VOC, HAP, AND TAP EMISSIONS ENVIVA PELLET SAMPSON, LLC TABLE C-10

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### Calculation Inputs:

% of Total Throughput to the Green	
Hammermills 10	100.0%
Annual Composition and Throughput	

	537,625
Hardwood Composition	25%
Softwood Composition	75%

ODT/hr 71.71	position 25%	position 75%
	Hardwood Composition	Softwood Composition

## Emission Calculations:

		a 7 11	a rat com	1000	Emission Factor	Factor		
Pollutant	CAS	IVH	NC IAF	VOC	Stack Tests	Tests	Potential I	Potential Emissions <sup>4</sup>
	14 HILD CL	(Yes/No)	(Ves/No)	(Yes/No)	Emission Factor	Reference		
					(Ib/ODT)		(ib/hr)	(104)
Total VOC	N/A	N/A	N/A	N/A	0.27	5	19.3	72.2
Acetaldehyde	75-07-0	Yes	Yes	Yes	0.007	~	0.49	1.85
Acrolein	107-02-8	Yes	Yes	Yes	0.000	~		
Formaldehyde	50-00-0	Yes	Yes	Yes	0.004	\$	0.29	
Methanol	67-56-1	Yes	No	Yes	0.00	5	0.22	0.87
Phenol	108-95-2	Yes	Yes	Yes	0.000	5	0	0
Propionaldehyde	123-38-6	Yes	No	Yes	0.001	s	0.07	0 27

72.2 4.05 6.91 1.08

<sup>1</sup> HAP & TAP emission factors for "Rotary Dryst, green, direct wood-fired, (inlet moisture content >50%, dry basis) softwood were obtained from AP-42, Section 10.6.2, Table 10.6.2.3.
<sup>100</sup> To account for hardwood emissions since no HAP/TAP emission factors are given for direct hardwood-fired, factors were conservatively calculated by multiplying AP-42 Section 10.6.2.3 HAP factors for green, direct softwood fired by the ratio of the VOC emission factors for green, direct softwood drying (0.244.7).

<sup>3</sup> Both AP-42 hardwood and softwood factor emissions from dryers were adjusted to represent the hammermills by multiplying the emission facotr time the ratio of the VOC from hammermills to dryers based on engineering testing conducted at the Enviva Wiggins facility (19.8%).

Short-term emissions were calculated based upon a worst-case scenario of 25% softwood firing on an hourly basis.

Annual emissions were calculated based on the Annual average % Hardwood and Softwood Composition. <sup>5</sup> HAP emissions from Enviva Wigginis October 2013 Stack Testing with a throughput of 62.5% softwood.

<sup>6</sup> Total VOC emissions from Enviva Amory October 2013 Stack Testing with a throughput of 60% softwood.

### TABLE C-11 EMERGENCY GENERATOR AND FIRE PUMP EMISSIONS ENVIVA PELLET SAMPSON, LLC

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**Emergency Generator Emissions (ES-EG)** 

Equipment and Fuel Characteristics

Engine Output	0.40	MW
Engine Power	536	hp (brake)
Hours of Operation	500	hr/vr <sup>1</sup>
Heating Value of Diesel	19,300	Btu/lb
Power Conversion	2,545	Btu/hr/hp

Criteria Pollutant Emissions

Pollutant	Catal			Potential Emissions		
TSP	Category	Emission Factor	Units	lb/hr	tpy	
	PSD	0.20	g/KW-hr	0.18	0.04	
PM <sub>10</sub>	PSD	0.20	g/KW-hr	0.18	0.04	
PM <sub>2.5</sub>	PSD	0.20	g/KW-hr	0.18	0.04	
NO <sub>x</sub>	PSD	4.00	g/KW-hr	3.52	0.88	
SO <sub>2</sub>	PSD	15.00	ppmw (3)	2.12E-03	5,30E-04	
CO	PSD	3,50	g/KW-hr	3.08E+00		
VOC (NMHC)	PSD	4.00	g/KW-hr	3.52E+00	7.70E-01 8.80E-01	
Foxic/Hazardous Air Pollutant Emissio						
Acetaldehyde	HAP/TAP	5.37E-06	lb/hp-hr (4)	2.88E-03	7.19E-04	
Acrolein	HAP/TAP	6.48E-07	lb/hp-hr (4)	3.47E-04	8.68E-05	
Benzene	HAP/TAP	6.53E-06	lb/hp-hr (4)	3.50E-03	8.75E-04	
Benzo(a)pyrene <sup>6</sup>	HAP/TAP	1.32E-09	lb/hp-hr (4)	7.05E-07		
1,3-Butadiene	HAP/TAP	2.74E-07	lb/hp-hr (4)		1.76E-07	
Formaldehyde	НАР/ТАР	8.26E-06	lb/hp-hr (4)	1.47E-04	3.67E-05	
Total PAH (POM)	HAP	1.18E-06	1b/hp-hr (4)	4.43E-03	1.11E-03	
Toluene	НАР/ТАР	2.86E-06	10/hp-hr (4)	6.30E-04	1.58E-04	
Xylene	HAP/TAP	2.00E-06	lb/hp-hr (4)	1.53E-03	3.84E-04	
Highest HAP (Formaldehyde)		8.26E-06	and the second se	1.07E-03	2.67E-04	
Total HAPs		a.20E-00	lb/hp-hr (4)	4.43E-03	1.11E-03	
				1.45E-02	3.63E-03	

<sup>1</sup> NSPS allows for only 100 hrs/yr of non-emergency operation of these engines (not the 500 hours shown). The PTE for the emergency

generator is based on 500 hr/yr, though, because the regs allow non-emergency operation and EPA guidance is 500 hr/yr for emergency generators.

<sup>2</sup> Emissions factors from NSPS Subpart IIII (or 40 CFR 89.112 where applicable) in compliance with post-2010 construction.

<sup>3</sup> Sulfur content in accordance with Year 2013 standards of 40 CFR 80.510(a) as required by NSPS Subpart IIII.

<sup>4</sup> Emission factor obtained from AP-42 Section 3.3, Tables 3.3-1 Table 3.3-2.

<sup>5</sup> Emission factor for NOx is listed as NOx and NMHC (Non-Methane Hydrocarbons or VOC) in Table 4 of NSPS Subpart IIII. Conservatively assumed entire limit attributable to NOx and VOC.

<sup>6</sup> Benzo(a)pyrene is included as a HAP in Total PAH.

### TABLE C-11 EMERGENCY GENERATOR AND FIRE PUMP EMISSIONS ENVIVA PELLET SAMPSON, LLC

Firewater Pump Emissions (ES-FWP)

Equipment and Fuel Characteristics

Equipment and Fuel Characteristics		
Engine Output	0.10	MW
Engine Power	131	hp
Hours of Operation	500	hr/yr <sup>1</sup>
Heating Value of Diesel	19,300	Btu/lb
Power Conversion	2,545	Btu/hr/hp

Criteria Pollutant Emissions

		20		Potential Emissions			
Pollutant			Units	ib/hr	tpy		
TSP	PSD	0.30	g/KW-hr	0.06	0.02		
PM <sub>10</sub>	PSD	0.30	g/KW-hr	0.06	0.02		
PM <sub>2.5</sub>	PSD	0.30	g/KW-hr	0.06	0.02		
NO <sub>x</sub>	PSD	4.00	g/KW-hr	0.86	0.22		
SO <sub>2</sub>	PSD	15.00	ppmw (3)	5.18E-04	1.30E-04		
CO	PSD	5,00	g/KW-hr	1.08E+00	2.69E-01		
VOC (NMHC)	PSD	4,00	g/KW-hr	8.61E-01	2.15E-0		
Acetaldehyde	НАР/ГАР	5.37E-06	lb/hp-hr (4)	7.03E-04	1.76E-04		
<b>Toxic/Hazardous Air Pollutant Emission</b>							
Acrolein	НАР/ТАР	6.48E-07	lb/hp-hr (4)	8.48E-05	2.12E-05		
Benzene	HAP/TAP	6.53E-06	lb/hp-hr (4)	8.56E-04	2.14E-04		
Benzo(a)pyrene <sup>6</sup>	HAP/TAP	1.32E-09	lb/hp-hr (4)	1.72E-07	4.31E-08		
1,3-Butadiene	НАР/ТАР	2.74E-07	lb/hp-hr (4)	3.59E-05			
Formaldehyde	HAP/TAP	8.26E-06	lb/hp-hr (4)		8.96E-06		
Total PAH (POM)	HAP	1.18E-06	lb/hp-hr (4)	1.08E-03	2.71E-04		
Toluene	НАР/ТАР	2.86E-06	1b/hp-hr (4)	1.54E-04	3.85E-05		
Xylene	HAP/TAP	2.00E-06	1	3.75E-04	9.38E-05		
Highest HAP (Formaldehyde)		8.26E-06	lb/hp-hr (4)	2.61E-04	6.53E-05		
Total HAPs		8.20E-00	lb/hp-hr (4)	1.08E-03	2.71E-04		
				3.55E-03	8.88E-04		

<sup>1</sup> NSPS allows for only 100 hrs/yr of non-emergency operation of these engines (not the 500 hours shown). The PTE for the emergency

generator is based on 500 hr/yr, though, because the regs allow non-emergency operation and EPA guidance is 500 hr/yr for emergency generators.

<sup>2</sup> Emissions factors from NSPS Subpart IIII (or 40 CFR 89.112 where applicable) in compliance with post-2009 construction.

<sup>3</sup> Sulfur content in accordance with Year 2010 standards of 40 CFR 80.510(a) as required by NSPS Subpart IIII.

<sup>4</sup> Emission factor obtained from AP-42 Section 3.3, Tables 3.3-1 Table 3.3-2.

<sup>5</sup> Emission factor for NOx is listed as NOx and NMHC (Non-Methane Hydrocarbons or VOC) in Table 4 of NSPS Subpart IIII. Conservatively assumed entire limit attributable to NOx and VOC.

<sup>6</sup> Benzo(a)pyrene is included as a HAP in Total PAH.

### TABLE C-12 GREEN WOOD HANDLING DROP POINT EXAMPLE EMISSIONS ENVIVA PELLET SAMPSON, LLC

ю	Emission Source Group	Transfer Activity	Type of Operation	Drop Points	PM Particle Size Multiplier (dimensionless)	Size Multiplier	PM25 Particle Size Multiplier (dimensionless)		Material Moisture Content (M) <sup>1</sup> (%)	PM Emission Factor <sup>2</sup> (lb/ton)	PM <sub>10</sub> Emission Factor <sup>2</sup> (lb/tan)	PM <sub>2.5</sub> Emission Factor <sup>2</sup> (lli/tun)	Potential Throughput (Ipy)	Potential PM Emissions (tpy)	Potential PM <sub>10</sub> Emissions (tpy)	Potential PM <sub>2.5</sub> Emissions (tpy)
GDP1		Purchased Bark Transfer to Outdoor Storage Area	Batch Droit	1	0,74	0.35	0.053	70	400				-			0407
GDPI	ES-GWH	Drog Points via Conveying from Bark Pile to Dryer	Batch Drou	4	0.74			7.9	48%	4.97E-05	2.35E-05	3.56E-06	13.733	8.63E-05	4.08E-05	6.18E-06
GDP2	ES-GWH	Transfer Purchased Wood Chips (Wet) to Outdoor Storage	Batch Drop			0.35	0.053	7.9	42%	5.92E-05	2.80E-05	4.24E-06	13.733	4.11E-04	1.95E-04	2.95E-05
GDP2		Drop Points via Conveying from Chip Pile to Dry er			0.74	0.35	0.053	7.9	49%	4.78E-05	2.26E-05	3.42E-06	140,600	8.50E-04	4.02E-04	6.08E-05
		Except of the Contracting from Child Fild to Dry er	Batch Drop	5	0.74	0.35	0.053	6.0	41%	4.36E-05	2.06E-05	3.12E-06	530,451	1.46E-02	6.91E-03	1.05E-03
	in and the factor of the later	Total Emission												1.60E-02	7.55E-03	1.14E-03

Average moisture content for logs, bark, and wood chips (wet) based on material balance provided by design engineering firm (Mid-South Engineering). <sup>2</sup> Emission factor calculation based on formula from AP-42, Section 13.2.4 - Aggregate Handling and Storage Piles, Equation 13.2.1, (11/06).

where: E - emission factor (lb/ton)

к –	particle size multiplier (dimensionless) for PM
k =	particle size multiplier (dimensionless) for PM10
k –	particle size multiplier (dimensionless) for PMp
U-	mean wind speed (mph)

M - material moisture content (%)

M - material monsture content (%)
 <sup>3</sup> PM<sub>0</sub> control efficiency of 14,7% exploid for three-sided enclosed structure with 50% porosity per Sierra Research "*Final BACM Technological and Economic Feasibility Analysis*", report prepared for the San Joaquin Valley Unified Air Pollution Control District (3/03). The control efficiency is assumed equivalent for PM<sub>0</sub> and PM<sub>2</sub><sub>2</sub> emissions.
 <sup>4</sup> These green wood handling emissions are representative of the fugitive emissions at the site. Note there may be multiple drop points for each type but as shown these emissions will be negligible.

0.74 0.35 0.053 7.9

TABLE C-13 GREEN WOOD STORAGE PILES FUGITIVE EMISSIONS ENVIVA PELLET SAMPSON, LLC

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									Outer						-				Γ
									Surface										
Emission		TSP Emission Factor	ha Factor	VOC Rinissian Factor	an Partas	The state										VOC as Carbon		VOC as alpha-	pha-
Unit ID	Unit ID Description	(lb/day/acre) (lb/hr/ft <sup>2</sup> )	(lb/hr/ft <sup>2</sup> )	(lb/dav/acre) (lb/hr/fr <sup>1</sup> )	(h/hr/fr <sup>2</sup> )	(U)	rfs)	theight 2	(f) (f) (a) (a)	PM Emissions	-	PM <sub>10</sub> Emissions		PM <sub>2.6</sub> Emissions	sions	Emissions		Pinene Emissions <sup>4</sup>	sions <sup>4</sup>
									-	(10/81/) (1by)		(lb/hr) (lpy)	-	(lb/hr) (tpy)	(tpy)	(lb/hr) (tpy)		(lb/hr)	(tov)
GWSPI	GWSP1 Green Wood Pile No. 1	5 61	5 275 02	5											t		- t.		
		10.2	00-71/5'5	00.5	3.44E-Ub	100	400	10	60,000	0.322	1,410	0.161	0 705	CPCU U	0106	100	000		
GWSP2	GWSP2 Green Wood Pile No. 2	5.61	5.37E-06	3.60	3.44F-06	002	400	01	110 400	0 502					0010	17.0	06.0	0.24	E0.1
						11		2	00+°011	565.0	C65.2	0.296	1.298	0.0444	0.195	0.38	1.67	0.43	1 90
Total											t		I		1				
										0.915	4.006	0.457	2.003	0.457 2.003 0.0686 0.300	0.300	0.59	2.57	0.67	2.03
TSP emissio	TSP emission factor based on II & EDA Content of Content of the	and the second s	9 · 4															1	
VICCINICA VOIN	OIL INVIOL DASEU OIL U.S. EFA (	ontrol of Upen Fupl.	The Duxt Number	Research Trianels Dark Marth Condina Train Socies on Section 5.	" Dards Nimel C.	Total Total		0 9											

<sup>1</sup> TSP emission factor based on U.S. EPA Control af Open Fugitive Dust Sources. Research Triangle Park, North Carolina, EPA-450/3-484-008. Suptember 1988, Page 4-17,

 $E = 1.7 \left(\frac{s}{1.5}\right) \left(\frac{(365-p)}{235}\right) \left(\frac{f}{15}\right) (lb/day/acre)$ 

- where: s, silt content of wood chips (%):
   p. number of days with rainfall greater than 0.01 inch:
   f (time that wind exceeds 5.36 m/s - 12 mph) (%):

PM10/TSP ratio:

- 4.8 120 14.8 50%
- s silt content(%) for lumber sawmills (minimum), from AP-42 Table 13.2.2-1 Based on AP-42, Zhgure 13.2.1.2. Based on meteorological data surged for Yon/2011 for Sampseon, NC. PM, is assumed to equal 50% of TSP based on U.S. EPA (*vinicel of Open Fliqtive Dust Sources* , Research Triangle Park, North PM, is assumed to equal 75 % of TSP based on U.S. EPA (*vinicel of Open Fliqtive Dust Sources* , Research Triangle Park, North Carolina, F2M-450/7-48-008. Soptember 1998. PM.3: is assumed to equal 75 % of TSP U.S. EPA Baselground Document for Revisions to Fine Fraction Ratios Used for AP-42 Fugitive Dust Emission Factors. November 2006.
  - 7.5% PM2.5/TSP ratio:
- <sup>2</sup> The surface area is calculated as [2+H+L-2+W+H+L+W] + 20% to consider the sloping pile etdoes. Length and width based on proposed site design with a conservative height. Emission factors obtained from NCASI document provided by SC DHEC for the calculation of fugitive VOC emissions from Douglas Fir wood storage piles. Emission factors ranged from 1.6 to 3.6 1b C/acre-day. Enviva chose to employ <sup>3</sup> the maximum emission factor for purposes of conservatism.

<sup>4</sup> Emissions are calculated in tons of carbon per year by the following formula: Inter Cyster = 5 acres 5 363 days 4.1.6 the Citers-day 2000 th/ton Emission factor converted from as carbon to as alpha-pinene by multiplying by 1.1.4.

### TABLE C-14 TANKS EMISSIONS ENVIVA PELLET SAMPSON, LLC

			Tank D	imensions				TAN	KS 4.0
Tank ID	Tank Description	Volume <sup>1</sup> (gal)	Diameter (ft)	Height/Length (ft)	Orientation	Throughput (gal/yr)	Turnovers	VOC E	missions (tpy)
TK01	Emergency Generator Fuel Oil Tank <sup>2</sup>	2,500	6	12	Vertical	12.000	4.80	0.37	3.57E-03
TK02	Fire Water Pump Fuel Oil Tank <sup>2</sup>	1,000	5	9	Horizontal	10,300	10.30	0.86	4.30E-04
	- Andrew - The st						TOTAL	1.23	4.00E-03

<sup>1</sup> Conservative design specifications.

<sup>2</sup> Throughput based on fuel consumption and 500 hours of operation per year.

### TABLE C-15 PAVED ROAD POTENTIAL FUGITIVE PM EMISSIONS ENVIVA PELLET SAMPSON, LLC

	Distance Traveled per Round Trip <sup>1</sup> (ft)		Miles Traveled per Day }	Events Per Year (Days)	Truck Weight (Empty) Ibs	Truck Weight (Loaded) lbs	Average Weight (W) (tons)	Vehicle Miles Traveled (VMI/yr)		mission Fact (lb/VMT)		Potential I	N	Potential E PM	10	Potential I PN	Emissions A <sub>2.5</sub>
				6.44			(cous)	(* (*1/51)	PNI	PMID	PM2.5	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Logs Delivery to Crane	12,800	47	113.94	365	40,480	102,540	35.8	41,588	0.25	0.05	0.012	0.12	0.51	0.02	0.10	C 00 00	
Logs Delivery to Log Storage Area	11,200	47	99.70	365	40,480	102,540	35.8	36,389	0.25	0.05	0.012	0.12	0.31	0.02	0.10	5.7E-03	2.5E-02
Chips Delivery	16,000	66	199.39	365	40,960	101,440	35.6	72,779	0.24	0.05	0.012	0.10			0.09	5.0E-03	2.2E-02
Hog Fuel Delivery	16,000	28	85.45	365	40,960	101,440	35.6	31,191	0.24	0.05	0.012		0.89	0.04	0.18	1.0E-02	4.4E-02
Pellet Delivery	3,200	66	39.92	365	40,960	101,440	35.6	14,570	0.24			0.09	0.38	0.02	0.08	4.3E-03	1.9E-02
Employee Car Parking	4,000	75	56.8	365	4,000	4.000	2.0			0.05	0.012	0.04	0.18	0.01	0.04	2.0E-03	8.7E-03
Total Paved Road Emissions	_		- 510		1,000	4,000	2.0	20,739	0.01	0.00	0.001	0.00	0.01	0.00	0.00	1.5E-04	6.6E-04
Y OLAI FAVCU KOMU Emissions			_	_								0.55	2.42	0.11	0.48	0.03	0.12

istance traveled per round trip was estimated based on truck route and site layout.

<sup>2</sup> Paved road emission factors based on emission estimation Equation 2 from AP-42, Section 13.2.1 (1/11) for paved roads. Where:

$$E = \left[k(sL)^{0.91}(W)^{1.02}\right] \left[1 - \frac{P}{4*365}\right] (1b/VMT)$$

E = particulate emission factor (lb/VMT) k - particle size multiplier from AP-42 Table 13.2.1-1

TSP PM 10 PM 2.5 0.011 0.0022 0.00054 0.6

sL - road surface silt loading from AP-42 Table 13.2.1-2 for ADT <500

W = mean vehicle weight (ton)

P - No. days with rainfall greater than 0.01 inch, Per AP-42, Section 13.2.1, Figure 13.2.1-2 (Sampson Count 110

<sup>3</sup> Potential emissions calculated from appropriate emission factor times vehicle miles traveled with control efficiency of 90% for water / dust suppression activities followed by sweeping.

Per Table 5 in Chapter 4 of the Air Pollution Engineering Manual, Air and Waste Management Association, page 141.

Control efficiency (%) = 96-0.263\*V, where V is the number of vehicle passes since application of water.

#### TABLE C-16 POTENTIAL GHG EMISSIONS FROM COMBUSTION SOURCES ENVIVA PELLET SAMPSON, LLC

#### Potential GHG Emissions

#### **Operating Data:**

Dryer Heat Input	250.40	MMBtu/hr
Operating Schedule	8,760	hrs/yr
Emergency Generator Output	536	bhp
Operating Schedule	500	hrs/yr
No. 2 Fuel Input	25.5	gal/hr <sup>1</sup>
Energy Input	3.495	MMBtu/hr <sup>2</sup>
Fire Water Pump Output	131	bhp
Operating Schedule	500	hrs/yr
No. 2 Fuel Input	6.2	gal/hr <sup>1</sup>
Energy Input	0.854	MMBtu/hr <sup>2</sup>

Emission Unit ID	Fuel Type	Emission Fac	tors from Table C-1 (	(kg/MMBtu) <sup>3</sup>			Emissions (	tons)	
	s are s J ps	CO <sub>2</sub>	CH4	N <sub>2</sub> O	CO <sub>2</sub>	CH4	N <sub>2</sub> O	Total COse	Total CO2e 5
ES-DR YER	Wood and Wood Residuals	9.38E+01	7.20E-03	3.60E-03	226,798.97	17	9	229,828	3,064
ES-EG	No. 2 Fuel Oil (Distillate)	7.40E+01	3.00E-03	6.00E-04	142	5.78E-03	1.16E-03	143	143
ES-FWP	No. 2 Fuel Oil (Distillate)	7.40E+01	3.00E-03	6.00E-04	35	1.41E-03	2.83E-04	35	35

<sup>1</sup> Fuel consumption calculated using a factor of 0.0476 gal/hr-hp. Advanced Environmental Interface, Inc. (1998).

General Permits for Emergency Engines. INSIGHTS, 98-2, 3.

 $^2$  Energy calculated on a fuel consumption basis, using an energy factor of 0.137 MMBtu/gal.

<sup>3</sup> Emission factors from Table C-1 and C-2 of GHG Reporting Rule. Emission factors for methane and N<sub>2</sub>O already multiplied by their respective GWPs of 25 and 298.

<sup>4</sup> As per NC DAQ Biomass Deferral Rule 15A NCAC 02D .0544, CO<sub>2</sub> emissions from bioenergy and other biogenetic sources are not applicable towards PSD and Title V permitting.

<sup>5</sup> CO<sub>2e</sub> reflects the biomass defferral which does not add in CO<sub>2</sub> from biomass combustion.

Application for Initial Title V Permit Enviva Pellets Sampson, LLC Sampson County, North Carolina

APPENDIX D PERMIT APPLICATION FORMS

Ramboll Environ

### FORM A GENERAL FACILITY INFORMATION

				GENERAL	FACILITY	INFORMATION					
REVISED 09/	/22/16		NCDEQ/D	ivision of Air Qual	ity - Application	for Air Permit to Con	struct/Operate				A
		NO	TE- APPLICA	ATION WILL NO	T BE PROCI	ESSED WITHOUT	THE FOLLOWIN	NG:		1000	1000
	Local Zoning Co	nsistency Detern	nination (new or	J		te Number of Copies of		-	Application Fee Uf.	and the state	
	modification only	,					Application		Application Fee (if r	equired)	
	Responsible Offi	cial/Authorized C	ontact Signature		P.E. Seal	(if required)					
		Sector Sector		GEN	ERAL INFOR	RMATION		13	· · · · · · · · · · · · · · · · · · ·	State Land	Sec. 11
Legal Corpor	rate/Owner Name:	Enviva I	ellets Sampson,	LLC							
Site Name:	Enviva Pellets Sa										
Site Address	(911 Address) Line '	1: 5 Conne	ctor Road								
Site Address	Line 2:										
City:	Faison					State: North	Carolina				
Zip Code:					28341	County: Samps	son				
				CON	TACT INFOR					- New Col	1
Responsible	Official/Authorized	Contact:				Invoice Contact;					
Name/Title:	Jason Ansley, Pla	nt Manager					rrell, Corporate EH	S Mana	ger		
Mailing Addre	ss Line 1: 5 Conne		.7			Mailing Address Line 1			6		-
Mailing Addre						Mailing Address Line 2					
City: Faisor		State: NC	Zip C	ode: 2	4341	City: Ahoskie	State:	NC	Zip Code:	27910	
Primary Phone		0-375-6365	Fax No.:			Primary Phone No.:	(252) 209-6032		Tax No.:	27,710	
Secondary Ph						Secondary Phone No .:	(101) 107-0051		aA 140		
	s: Jason.Ansley@er	vivabiomass.co				Email Address: Joe.Ha	rrell@envivahioms	ess com			
	ection Contact:			Second Second		Permit/Technical Con		199.00111			
Name/Title:	William Simon, E	HS Manager					rrell, Corporate EH	C Manu			
	ss Line 1: 5 Conne		7			Mailing Address Line 1		-	ger .		
Mailing Addres						Mailing Address Line 1		J East			
City: Faison		State: NC	Zip C	ode: 7	8341	City: Ahoskie		NC	Zin Onder	25010	
Primary Phone		0-375-6365	Fax No.:	oue. 2	0341	Primary Phone No.:		NC	Zip Code:	27910	
Secondary Ph		0-573-0303	I da No				(252) 209-6032		Fax No.:		
	S: William.Simon@	anvivabiomass o				Secondary Phone No.:	well@envirentie				
	. windinginging	current abroniass.c	.010	APPI ICAT	TON IS DEIN	Email Address: Joe.Hat G MADE FOR	rrencenvivabioina	iss.com			-
L New N	Ion-permitted Facility	(Groopfield	Madifian	tion of Facility (perm					TH. 14		
Name		wnership Change		trative Amendment	inteo}	Renewal Title V Renewal with M		enewali	Non-Title V		
- Weather	onange	wheramp onlange			N AFTER AP	PLICATION (Chec		_	12 Mar 10		
U	General		Small	LAGOILIGATIO		itory Small	Synthetic Mir		I Title V		
	Condital	head	Ginai	FACILITY		FORMATION	Synuleuc Ivili	IOF		1.12.2	-
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	nanufacturing facili										
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					I						
Drimon CIC/N	AICE Code: 2400 G	(In a d Day day to				Facility ID No. 8200152					
	AICS Code: 2499 (V				l	Current/Previous Air Pe			xpiration Date: 10/	31/2019	_
Facility Coordi		Latitud	le: 35 degrees, 7	minutes, 19.8 secon		Longitude: 78 degrees,	10 minutes, 59.7 se	conds			
confidential d	lication contain		YES 🖸	NO	applicatio	lease contact the DAQ n.*** (See Instr		rior to s	submitting this		
connacintar a	1400 :		D.F	DECULOR CIPH			•	_			
			PE	RSON OR FIRM	and the second se	PARED APPLICAT		- X		un en en	
	Rachel Velthuiser					Firm Name: Ramboll Er					
	ss Line 1:6 Davis Dr	ive, Suite 139				Mailing Address Line 2:	P.O. Box 13441				
	Triangle Park		State: NC			Zip Code: 27709			ounty: Durham		
Phone No.:	(919) 765-8027		Fax No.:	E OF BEODOU		Email Address: rvelthui					
		A COLUMN	SIGNATUR	E OF RESPONS		IAL/AUTHORIZED	CONTACT	-	And a start of the	10 22 2	1
Name (typed):	100 million (100 m	20				Title: Plant Manager					
X Signature(Bl		1				Date: 9/25	17				
	0	/	Att	ach Additiona	I Sheets As	Necessary				Page	1 of 2



## FORM A (continued, page 2 of 2) GENERAL FACILITY INFORMATION

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REVISED 09/22/16	SERERAL PACIENT INFORMATION     NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate	Г
	SECTION AA1 - APPLICATION FOR NON-TITLE V PERMIT RENEWAL	
	(Company Name) hereby formally requests repearal of Air Bormit No	
There have been n	to modifications to the originally permitted facility or the operations therein that would require an air permit since the last nomity was insued	
If yes, have you ain Did you attach a cu	ect to 40 CFR Part 68 "Prevnetion of Accidental Releases" - Section 112(r) of the Clean Air Act? YES NO pate Submitted a Risk Manage Plan (RMP) to EPA? YES NO Date Submitted:	
12.1.7.5.2.3	Malida Date Malida	
In accordance with	SECTION AA2- APPLICATION FOR TITLE V PERMIT RENEWAI the provisions of Title 15A 2Q. 0513, the responsible official of (Company Name)	Sec. 1
hereby formally req	guests renewal of Air Permit No(Company Name)	
(1) Th	(a) remit not and other certifies and describes all emissions units at the above subject facility, except where such units are exempted under the	
NO	prin Carolina Title V regulations at 15A NCAC 20, 0500;	
rec	e current air quality permit cits all applicable requirements and provides the method or methods for determing compliance with the applicable quirements;	
(3) Th	e facility is currently in compliance, and shall continue to comply, with all applicable requiremetns. (Note: As provided under 15A NCAC 20.0512 moliance with the conditions of the parmit chall be deemed experience with the par	
(4) Foi	mpliance with the conditions of the permit shall be deemed compliance with the applicable requirements specifically identified in the permit; r applicable requirements that become effective during the term of the renewed permit that the facility shall comply on a timely basis;	
(5) In	e facility shall fulfill applicable enhanced monitoring requirements and submit a compliance certification as required by 40 CER part 64	
The responsible offi	Icial (signature on page 1) certifies under the penalty of law that all information and statements provided above, based on information and ballef	
unned atter reason	able inquiry, are true, accurate, and complete.	
	SECTION AA3- APPLICATION FOR NAME CHANGE	
New Facility Name:		_
-		
Former Facility Nam	ne:	
associated with this		
w this application w	SECTION AA4- APPLICATION FOR AN OWNERSHIP CHANG	
be transfer of perm	ve hereby request transfer of Air Quality Permit No from the former owner to the new owner as described below. int responsibility, coverage and liability shall be effective (immediately or insert date ). The legal ownership of the	
acility described on	it responsibility, coverage and liability shall be effective (immediately or insert date.) The legal ownership of the page 1 of this form has been or will be transferred on (date). There have been no modifications to the originally	
ermitted facility that	t would require an air quality permit since the last permit was issued.	
Signature of New (B	uver) Responsible Official/Authorized Contact (as typed on page 1):	
Signature (Biue Inl	١٢٠٠	
)ate:	N).	
lew Facility Name:		
ormer Facility Name	e:	
	[Seller] Responsible Official/Authorized Contact	
lame (typed or print	):	
itle:		
Signature (Blue Ink	k):	
ate:		
ormer Legal Corpor	rate/Owner Name	
	n lieu of the seller's signature on this form, a letter may be submitted with the seller's signature indicating the ownership change	
	SECTION AA5- APPLICATION FOR ADMINISTRATIVE AMENDMEN	
ascribe the request	ed administrative amendment here (attach additional documents as necessary):	
	Attach Additional Sheets As Necessar	Page

### FORMs A2, A3 EMISSION SOURCE LISTING FOR THIS APPLICATION - A2 112r APPLICABILITY INFORMATION - A3

REVISED 09/22/16

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### NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Oner

	LINIGSION SOURCE LISTING: NEW,	<ul> <li>Application for Air Permit to Con Modified, Previously Unper</li> </ul>	mitted Replaced Deleted	A2
EMISSION SOURCE	EMISSION SOURCE	CONTROL DEVICE		
ÍD NO.	DESCRIPTION	ID NO	CONTROL DEVICE	
	Equipment To Be ADDED By This App	lication (New Proviously I	DESCRIPTION	
ES-CHIP-1	Log Chipping	N/A	inpermitted, or Replacement)	100.11
ES-GHM-1 through 3	Green Wood Hammermills		N/A	
ES-BARKHOG	Bark Hog	CD-GHM-BV1 through 3	Bin Vent Baghouse	_
ES-DRYER	Green Wood Direct-Fired Rotary Dryer System		N/A	
	the state of the s	CD-DC1 through CD-DC4	Four (4) Simple Cyclones (routed to CD-WESP)	
ES-HM-1 through 7	Seven (7) Hammermills	CD-WESP	Wet Electrostatic Precipitator	
		CD-HM-CYC-1 CD-HM-BF-1		
		CD-HM-CYC-2 CD-HM-BF-2		
		CD-HM-CYC-3 CD-HM-BF-3	Simple Cyclone, Bagfilter	
		CD-HM-CYC-4 CD-HM-BF-4		
		CD-HM-CYC-5 CD-HM-BF-5	Simple Cyclone, Bagfilter	
		CD-HM-CYC-6 CD-HM-BF-6	Simple Cyclone, Bagfilter	
ES-HMA	Hammermill Area	CD-HM-CYC-7 CD-HM-BF-7	Simple Cyclone, Bagfilter	
ES-PFB	Pellet Fines Bin	CD-PFB-BF	Bin Vent Baghouse	
S-PMFS	Pellet Mill Feed Silo			
	Six (6) Pellet Coolers	CD-PMFS-BV	Bin Vent Bagfilter	
	Finished Product Handling	CD-CLR-1 through 6	Six (6) Pellet Cooler Cyclones	
S-PB-1 through 4	Four (4) Pellet Loadout Bins			
	Pellet Mill Loadout 1 and 2	CD-FPH-BF	Finished Product Handling Bagfilter	
S-GN	Emergency Generator (536 bhp)			
S-FWP	Fire Water Pump (131 bhp)	N/A	N/A	
S-PSTB	Pellet Sampling Transfer Bin	N/A	N/A	
	Pellet Cooler Recirculation	CD-DC-BV3	Bin Vent Bagfilter	
		CD-PCR-BF	Bin Vent Bagfilter	
	Evisting Demultiple			
I	Existing Permitted Equipme	ent To Be MODIFIED By T	his Application	
				_
	Equipment To Be	<b>DELETED</b> By This Applic	ation	-
				-

	112(r) APPLICABI	ITY INFORMATION		
ls your facility subject to 40 CFR Part 68 "Prevention of A If No, please specify in detail how your facility avoided ap threshold quantities, as determined under §68.115.	oplicability:	2(r) of the Federal Clean Air Act? The Sampson plant does not store any regulated s	U Yes ✓	A 3 No f their respect
fryour facility is Subject to 112(r), please complete the fo     A. Have you already submitted a Risk Management P     Yes No Specify required     B. Are you using administrative controls to subject yo     Yes No If yes, please spe     C. List the processes subject to 112(r) at your facility:	lan (RMP) to EPA Pursuant to 40 RMP submittal date: ur facility to a lesser 112(r) progra			
PROCESS DESCRIPTION	PROCESS LEVEL (1, 2, or 3)	HAZARDOUS CHEMICAL	MAXIMUM IN	

Attach Additional Sheets As Necessary

### FORM D1 FACILITY-WIDE EMISSIONS SUMMARY

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				t to Construct/O			D1
		NT EMISSIONS	INFORMATIO			12112	1000
		EMIS (AFTER CO	DACTUAL SIONS ONTROLS / (TIONS)	POTENTIAL E (BEFORE CO LIMITAT	NTROLS /	(AFTER	AL EMISSIO CONTROLS FATIONS)
AIR POLLUTANT EMITTED			is/yr	tons			ons/yr
PARTICULATE MATTER (PM)				tions in Append		· · · ·	or to, yr
PARTICULATE MATTER < 10 MICRONS (PM)	u)						
PARTICULATE MATTER < 2.5 MICRONS (PM		1					
SULFUR DIOXIDE (SO2)		1					
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
EAD							
GREENHOUSE GASES (GHG) (SHORT TONS	5)						
OTHER		ANT ENGOION					
HAZARDOU	S AIR PULLUT	ANT EMISSION	D ACTUAL	IUN - FACILITT	-WIDE		COLUMN 1
		EMIS (AFTER C	SIONS ONTROLS / (TIONS)	(BEFORE CO	NTROLS /	(AFTER	AL EMISSIO CONTROLS FATIONS)
HAZARDOUS AIR POLLUTANT EMITTED	CAS NO.	tor	is/yr	tons	fyr	t	ons/yr
		See Em	ission Calculat	tions in Append	lix C		
				1			
		1		-			
		+					
TOXIC A	R POLLUTANT	EMISSIONS IN	FORMATION	- FACILITY-WI	DE		THE LOCAL
NDICATE REQUESTED ACTUAL EMISSION (TPER) IN 15A NCAC 2Q .0711 MAY REQUIR					ESSARY.	T EMISSIO	
TOXIC AIR POLLUTANT EMITTED	CAS NO.	lb/hr	lb/day	lb/year	Yes	No	-
	CAUNO.		Calculations i		100		
		Dee Linderer					
		1		1			
							1
COMMENTS:							
COMMENTS:							
COMMENTS:							

## FORM D4

1

## EXEMPT AND INSIGNIFICANT ACTIVITIES SUMMARY

REVISED 09/22/16 NCDEQ/Division of Air Quality -	Application for Air Per	rmit to Construct/Operate D4
ACTIVITIES EXE INSIGNIFICANT ACTIVITIES	PER 2Q .0503 F	Q .0102 OR FOR TITLE V SOURCES
DESCRIPTION OF EMISSION SOURCE	SIZE OR PRODUCTION RATE	BASIS FOR EXEMPTION OR INSIGNIFICANT ACTIVITY
1. Green Wood Handling and Sizing Operations IES-GWHS	N/A	15A NCAC 02Q .0503(8)-low emissions, see Appendix C
2. Dried Wood Handling and Sizing Operations UES-DWHS	N/A	15A NCAC 02Q .0503(8) -negligible emissions, See Appendix C
3. Emergency Generator Diesel Fuel Storage Tank TK-1	Up to 2,500 gallons	15A NCAC 02Q .0503(8)
4. Firewater Pump Diesel Fuel Storage Tank TK-2	Up to 1,000 gallons	15A NCAC 02Q .0503(8)
5. Mobile Fuel Diesel Tank TK-3	Up to 2,500 gallons	15A NCAC 02Q .0503(8)
6. Green Wood Storage Piles IES-GWSP1 and IES-GWSP2	N/A	15A NCAC 02Q .0503(8) -low emissions, see Appendix C
7. Debarker IES-DEBARK-1	N/A	15A NCAC 02Q .0503(8) -negligible emissions
B. Green Wood Fuel Bin IES-GWFB	13.93 ODT/hr	15A NCACO 2Q .0503(8) -no quantifiable emissions
9. IES-EG	536 HP	15A NCAC 02Q .0503(8)
10. IES-FWP	131 HP	15A NCAC 02Q .0503(8)

Attach Additional Sheets As Necessary

## FORM E1

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REVISED 06/01/16		F Air Quality - Applicatio	n for Air Permit to Construct/Operate	I	E1
IE VO	No. of the second second second		R" FOR TITLE V YOU MUST	COMPLETE	
			ORMS (E2 THROUGH E5 AS		
Indicate here if your facility is subject to	fitle V by:	EMISSIONS			
If subject to Title V by "OTHER", specify	why:	NSPS	NESHAP (MACT)		
		OTHER (specify			
If you are or will be subject to any maxim	um achiquable apatrol tachnolom		d auguatta applica		
112(d) of the Clean Air Act, specify below		standards (IMACT) Issuer	a pursuant to section		
	EMISSION SOU				
EMISSION SOURCE ID	DESCRIPTIO			MACT	
ES-EG, ES-FWP	Emergency Generator and		Subpart ZZZZ		
ES-DRYER	Green Wood Direct-Fired D	- for the second s	40 CFR 63 Subpart B, [112(g)]		
ES-GHM1 through 3	Three (3) Green Wood Han	nmermills	40 CFR 63 Subpart B, [112(g)]		
ES-HM1 through ES-HM7	Seven (7) Hammermills		40 CFR 63 Subpart B, [112(g)]		
ES-HMA	Hammermill Area		40 CFR 63 Subpart B, [112(g)]		
TS CI D1 about h	Twelve (12) Wood Pellet Pr	resses and Six			
ES-CLR1 through 6	(6) Pellet Coolers		40 CFR 63 Subpart B, [112(g)]		
	· · · · · · · · · · · · · · · · · · ·				
	7				
	-				
List any additional regulation which are re	equested to be included in the shi	eld and provide a detailed	explanation as to why		
the shield should be granted:					
		1			
REGULATION	EMISSION SOURCE (I	nclude ID)		LANATION	C interview d .
40 CFR 63 Subpart DDDD as	All sources at site		Wood pellet manufacturing does		
incorporated in 15A NCAC 2D .1111			composite wood products (PCW)		
			Thus this regulations is not appli	icable to the Sampson p	lant.
	-		*		
	-		<del></del>		
	1				
	3		· · · · · · · · · · · · · · · · · · ·		
Comments:					
Comments:					
	A 44 1				
	Attacr	n Additional Sheet	IS AS NECESSARY		

### FORM E2 EMISSION SOURCE APPLICABLE REGULATION LISTING

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VISED 09/22/16	NCDEQ/Di	vision of Air Quality - Applicatio	n for Air Permit to Cons	truct/Operate	E
EMISSION SOURCE ID NO.	EMISSION SOURCE DESCRIPTION	OPERATING SCENARIO INDICATE PRIMARY (P) OR ALTERNATIVE (A)	POLLUTANT	APPLICABLE	
ES 1	Coal/Wood Boiler	P - Coal	PM	NCAC 2D .0503	
		A - Wood	PM	NCAC 2D .0504	
See attached	table following Form E3 fo	or a summary of regulatory re	equirements and asso	ciated compliance requirement	nts
					_
	£ //				

Attach Additional Sheets As Necessary

	6 NCDEQ/Division Of Air Qu D NO. ES-DRYER. See attached table	ality - Application for Air Permit to C	construct/Operate	Г
following Form	E3 for a summary of regulatory	Regulated Pollutant Particula	te Matter	-
requirements of	ng Scenario (AOS) NO:	Applicable Regulation 15 NCA	C 02D .0515	
and and operation				
	ATTACH A SEPARATE PAGE TO	EXPAND ON ANY OF THE BELC	DW COMMENTS	
		RING REQUIREMENTS	Si sheka se den bula sa ya	E.
Describe Mo Describe Mo	ce Assurance Monitoring (CAM) 40 CFR Part 64 Ap M Plan Attached (if applicable, CAM plan must be a nitoring Device Type: nitoring Location:	oplicable? YES	NO NO	
Other Monito	ring Methods (Describe In Detail):	Post-controlled PM emissions are b	elow the major source threshold. As	
Drver's CO. V	Dryer is not required to be submitted until the fir /OC, or NOx emission limits.	st Title V permit renewal application	is submitted. A control device is not	S
Describe the readings take	frequency and duration of monitoring and how the en to produce an hourly average):	data will be recorded (i.e., every 15 m	inutes, 1 minute instantaneous	2
Data (Darama		EPING REQUIREMENTS		
Data (Parame	ter) being recording:			
Frequency of r	ecordkeeping (How often is data recorded?):			
	REPORTIN	IG REQUIREMENTS		
	ribe what is being reported:			
Generally desc				
	OTHER (DESCRIBE):		EVERY 6 MONTHS	
equency:			EVERY 6 MONTHS	
equency:	OTHER (DESCRIBE):		EVERY 6 MONTHS	
ecify proposed reference test	OTHER (DESCRIBE):  ence test method: method rule and citation:		EVERY 6 MONTHS	
requency: ecify proposed reference test ecify testing frequen	OTHER (DESCRIBE):	ESTING		
requency: ecify proposed reference test ecify testing frequen	OTHER (DESCRIBE):  ence test method: method rule and citation: cy: Proposed test method subject to approve	ESTING		
requency: ecify proposed reference test ecify testing frequen	OTHER (DESCRIBE):  ence test method: method rule and citation: cy: Proposed test method subject to approve	ESTING		
requency: ecify proposed reference test ecify testing frequen	OTHER (DESCRIBE):  ence test method: method rule and citation: cy: Proposed test method subject to approve	ESTING		

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### Summary of Regulatory Requirements and Associated Compliance Requirements Enviva Pellets Sampson, LLC

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				Final Control	Monitoring Method/Frequency/Duration	Recordkeeping	Reporting
Emission Source Description	1D No.	Pollutant PM/PM <sub>10</sub> /PM <sub>2.5</sub>	Regulation	Device	PM emissions shall be controlled by an ESP. To assure compliance, daily monitoring of primary	Written or electronic log of date and time of each inspection, results of inspection and maintenance, and variance from manufacturer's recommendation.	Any maintenance performed on the ESP within 30 days of a written request by DAQ. Semi- annual progress report and annual compliance certification.
	1			11560	months internal inspect of the structural integrity. None required because inherently low sulfur content	of wood fuel achieves compliance	
/ood-fired Dryer	ES-Dryer	SO <sub>2</sub>	15A NCAC 02D .0516 Section 112(g) Case-	WESP	Initial source testing conducted following issuance	N/A	N/A
		HAPs	by-Case MACT		of PSD permit.	Written or electronic log of date/time/result	
		Opacity	15A NCAC 02D .0521	WESP	Monthly visible observation for "normal". If above normal, correct action or Method 9 observation required.	of each observation, results of each non- compliant observation and actions taken to correct, and results of corrective action.	Semi-annual progress report and annual compliance certification.
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	15A NCAC 02D .0515		Inspections and maintenance, including monthly inspection of ductwork and material collection unit for leaks, and annual internal inspection of control device/bagfilter integrity.	Written or electronic log of date and time of each inspection, results of inspection and maintenance, and variance from manufacturer's recommendation.	Any maintenance performed on the cyclones/bagfilters/bin vent filters within 30 days of a written request by DAQ. Semi-annual progress report and annual compliance certification.
Green Hammermills	ES-GHM-1 to -3	HAPs	Section 112(g) Case- by-Case MACT	Bagfilters	Use of PM control technologies and maintenance of equipment in accordance with manufacturer's specifications and/or standard industry practices.	N/A	N/A
		Opacity	15A NCAC 02D .0521		Monthly visible observation for "normal". If above normal, correct action or Method 9 observation required.	Written or electronic log of date/time/resu of each observation, results of each non- compliant observation and actions taken to correct, and results of corrective action.	Semi-annual progress report and
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	15A NCAC 02D .051	5	Inspections and maintenance, including monthly Inspection of ductwork and material collection unit for leaks, and annual internal inspection of control device/bagfilter integrity.	Written or electronic log of date and time t each inspection, results of inspection and maintenance, and variance from manufacturer's recommendation.	and and a first a standard
Hammermills	ES-HM-1 to - 7	HÀPs	Section 112(g) Case	Cyclones & Bagfilters		N/n	N/A sult
line (martine and a second sec		Opacit		.0521	Monthly visible observation for "normal". If abo normal, correct action or Method 9 observatio required.	Ne of each observation, results of each non compliant observation and actions take correct, and results of corrective action	en to annual compliance certification.
		PM/PN	1 <sub>10</sub> /PM <sub>2.5</sub> 15A NCAC 0	02D .0515 Bin	vent filter Monthly visible observation for "normal"	on unit control maintenance, and variance from manufacturer's recommendation.	time/result sch non- ns taken to
Pellet Mill Feed Silo	ES-I	PMFS	Opacity 15A NCA	C 02D .0521	Monthly visible observation for "norman normal, correct action or Method 9 obse required.	correct, and results of correct	

### Summary of Regulatory Requirements and Associated Compliance Requirements Enviva Pellets Sampson, LLC

Emission Source Description	ID No.	Pollutant	Regulation	Final Control Device	Monitoring Method/Frequency/Duration	Recordkeeping	Reporting
Emission Jource Desix press		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	15A NCAC 02D .0515		Inspections and maintenance, including monthly inspection of ductwork and material collection unit for leaks, and annual internal inspection of control device/bagfilter integrity.	each inspection, results of inspection and maintenance, and variance from	Any maintenance performed on the cyclones/bagfilters/bin vent filters within 30 days of a written request by DAQ. Semi-annual progress report and annual compliance certification.
Pellet Fins Bìn & Hammermill Area	ES-PFB & ES-HMA	HAPs	Section 112(g) Case- by-Case MACT	HMA	Use of PM control technologies and maintenance of equipment in accordance with manufacturer's specifications and/or standard industry practices.	N/A	N/A
		Opacity	15A NCAC 02D .0521		Monthly visible observation for "normal". If above normal, correct action or Method 9 observation required.	Written or electronic log of date/time/result of each observation, results of each non- compliant observation and actions taken to correct, and results of corrective action.	Semi-annual progress report and annual compliance certification.
Finished Product Handling	ES-FPH, ES-PB-1 to -	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	15A NCAC 02D .0515	Bagfilter	Inspections and maintenance, including monthly inspection of ductwork and material collection unit for leaks, and annual internal inspection of control device/bagfilter integrity.	Written or electronic log of date and time of each inspection, results of inspection and maintenance, and variance from manufacturer's recommendation.	Any maintenance performed on the cyclones/bagfilters/bin vent filters within 30 days of a written request by DAQ. Semi-annual progress report and annual compliance certification.
	4, ES-PL-1 to -2	Opacity	15A NCAC 02D .0521		Monthly visible observation for "normal". If above normal, correct action or Method 9 observation required.	Written or electronic log of date/time/result of each observation, results of each non- compliant observation and actions taken to correct, and results of corrective action.	Semi-annual progress report and annual compliance certification.
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	15A NCAC 02D .0515		Inspections and maintenance, including monthly inspection of ductwork and material collection unit for leaks, and annual internal inspection of control device/bagfilter integrity.	Written or electronic log of date and time of each inspection, results of inspection and maintenance, and variance from manufacturer's recommendation.	Any maintenance performed on the cyclones/bagfilters/bin vent filters within 30 days of a writter request by DAQ. Semi-annual progress report and annuaj compliance certification.
Pellet Presses & Coolers	ES-CLR-1 to -6	HAPs	Section 112(g) Case- by-Case MACT	Cyclones	Use of PM control technologies and maintenance of equipment in accordance with manufacturer's specifications and/or standard industry practices.	N/A	N/A
		Opacity	15A NCAC 02D .0521		Monthly visible observation for "normal". If above normal, correct action or Method 9 observation required.	Written or electronic log of date/time/result of each observation, results of each non- compliant observation and actions taken to correct, and results of corrective action.	Semi-annual progress report and annual compliance certification.
Pellet Cooler Recirculation	ES-PCR	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	; 15A NCAC 02D .0515	i Bin vent filter	Inspections and maintenance, including monthly inspection of ductwork and material collection unit for leaks, and annual internal inspection of control device/bagfilter integrity.	Written or electronic log of date and time o each inspection, results of inspection and maintenance, and variance from manufacturer's recommendation.	Any maintenance performed on f the cyclones/bagfilters/bin vent filters within 30 days of a writter request by DAQ. Semi-annual progress report and annual compliance certification.
		Opacity	15A NCAC 02D .052	1	Monthly visible observation for "normal". If above normal, correct action or Method 9 observation required.	Written or electronic log of date/time/resu of each observation, results of each non- compliant observation and actions taken to correct, and results of corrective action.	Semi-annual progress report an

### Summary of Regulatory Requirements and Associated Compliance Requirements Enviva Pellets Sampson, LLC

Emission Source Description	ID No.	Pollutant	Regulation	Final Control	Monitoring Method/Frequency/Duration	Recordkeeping	Reporting
Pellet Sampling Transfer Bin	ES-PSTB	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	15A NCAC 02D .0515	Device Bin vent filter	inspection of ductwork and material collection unit for leaks, and annual internal inspection of control	Written or electronic log of date and time of each inspection, results of inspection and maintenance, and variance from manufacturer's recommendation.	Any maintenance performed on the cyclones/bagfilters/bin vent filters within 30 days of a written request by DAQ. Semi-annual progress report and annual compliance certification.
Penet Sampling Transfer Uni		Opacity	15A NCAC 02D .0521		Monthly visible observation for "normal". If above normal, correct action or Method 9 observation	Written or electronic log of date/time/result of each observation, results of each non- compliant observation and actions taken to correct, and results of corrective action.	Semi-annual progress report and annual compliance certification.
Emergency Generator	IES-ES	РМ, СО, NO <sub>x</sub> , NMHC, SO <sub>2</sub>	40 CFR Part 60 Subpart IIII	N/A	engines, operate according to manufacturers procedures, use fuel oil with fuel content of no more than 15 ppmw sulfur and cetane index of at least 40, install non-resettable hour meter.	each engine.	Annual Compliance Certification
		50	15A NCAC 02D .0516	N/A	Non required because inherently low sulfur content of	of fuel achieves compliance	
		SO <sub>2</sub>	15A NCAC 02D .0510		N/A	N/A	N/A
		Opacity HAPs	40 CFR Part 63 Subpart ZZZZ	N/A	Comply with the NSPS requirements above and no other requirements apply.	Comply with the NSPS requirements above and no other requirements apply.	Annual Compliance Certification
Fire Water Pump	IES-FWP	PM, CO, NO <sub>x</sub> , NMHC, SO <sub>2</sub>	40 CFR Part 60 Subpart III	N/A	All requirement are outlined in the regulation, including the following: use certified emergency engines, operate according to manufacturers procedures, use fuel oil with fuel content of no more than 15 ppmw sulfur and cetane index of at least 40 install non-resettable hour meter.	each engine.	Annual Compliance Certification
THE TRACK FAILE		50	15A NCAC 02D .0516	N/A	Non required because inherently low sulfur content	of fuel achieves compliance	
		SO <sub>2</sub>	15A NCAC 02D .0510		N/A	N/A	N/A
		Opacity HAPs	40 CFR Part 63 Subpart ZZZZ	N/A	Comply with the NSPS requirements above and no other requirements apply.	Comply with the NSPS requirements above and no other requirements apply.	Annual Compliance Certification

## FORM E4

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COMPLIANCE STATUS WITH RESPECT TO ALL APPLICABLE REQUIREMENTS         Will each emission source at your facility be in compliance with all applicable requirements at the time of permit issuance and continue to comply with these requirements?       No       If NO, complete A through F below for each requirement for which compliance is not achieved.         Will your facility be in compliance with all applicable requirements taking effect during the term of the permit and meet such requirements on a timely basis?       HoO, complete A through F below for each requirement for which compliance is not achieved.         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirement for which compliance is not achieved.         A Emission Source Description (Include ID NO.)				
VISED 09/22/16       NODEQCDIvision of Air Quality - Application for Air Paintice Conductorequirement         VISED 09/22/16       COMPLIANCE STATUS WITH RESPECT TO ALL APPLICABLE REQUERRENTS         Will each emission source at your facility be in compliance with all applicable requirements at the time of permit issuance and continue to compliance with all applicable requirements at the time of permit issuance and continue to compliance with all applicable requirements on a timely basis?         Image: Statistic Compliance with all applicable requirements taking effect during the term of the permit and meet such requirements on a timely basis?         Image: Statistic Compliance with all applicable requirements taking effect during the term of the permit and meet such requirements on a timely basis?         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirement for which compliance is not achieved.         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirement for which compliance is not achieved.         A Emission Source Description (Include ID NO.)         B. Identify applicable requirement for which compliance will be achieved with this applicable requirements:         Image: Statistic         Image: Statistic         D. Detailed Schedule of Compliance:         Statistic         E. Frequency for submittal of progress reports (6 month minimum):         F. Statting date of submittal of progress reports: <td></td> <td>EMISSION SC</td> <td>OURCE COMPLIANCE SCHEDULE</td> <td>E4</td>		EMISSION SC	OURCE COMPLIANCE SCHEDULE	E4
COMPLIANCE STATUS WITH RESPECT TO ALL APPLICABLE REQUIREMENTS         Will each emission source at your facility be in compliance with all applicable requirements at the time of permit issuance and continue to comply with these requirements?         Image:	EVISED 09/22/16	NCDEQ/Division of Air	Quality - Application for Air Permit to Construct/Operate	<b>E4</b>
Will each emission source at your facility be in compliance with all applicable requirements at the time of permit issuance and continue to comply with these requirements?       If NO, complete A through F below for each requirement tor which compliance is not achieved.         Will your facility be in compliance with all applicable requirements taking effect during the term of the permit and meet such requirements on a timely basis?       If NO, complete A through F below for each requirement for which compliance is not achieved.         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements.       If NO, complete A through F below for each requirement for which compliance is not achieved.         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements.       If NO, complete A through F below for each requirement for which compliance is not achieved.         A. Emission Source Description (Include ID NO.)			TH DESPECT TO ALL APPLICABLE REQUIREMENTS	
comply with these requirements?       YES       NO       If NO, complete A through F below for each requirement for which compliance is not achieved.         Will your facility be in compliance with all applicable requirements taking effect during the term of the permit and meet such requirements on a timely basis?       If NO, complete A through F below for each requirement for which compliance is not achieved.         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements?       YES       NO       If NO, complete A through F below for each requirement for which compliance is not achieved.         A Emission Source Description (Include ID NO.)		COMPLIANCE STATUS WIT	TRESPECT TO ALL AT LICENSIL THE time of permit issuance and continue to	
VES       NO       If NO, complete A through P below for each requirement no wheth compliance is not achieved.         Will your facility be in compliance with all applicable requirements taking effect during the term of the permit and meet such requirements on a timely basis?       If NO, complete A through P below for each requirement for which compliance is not achieved.         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements?       If NO, complete A through P below for each requirement for which compliance is not achieved.         A Emission Source Description (Include ID NO.)       If NO, complete A through P below for each requirement for which compliance is not achieved.         A Emission Source Description (Include ID NO.)       Identify applicable requirement for which compliance will be achieved with this applicable requirements:	Will each emissio	on source at your facility be in complia		
Compliance is not achieved.         Will your facility be in compliance with all applicable requirements taking effect during the term of the permit and meet such requirements on a timely basis?         Image: Statistic compliance with all applicable requirements taking effect during the term of the permit and compliance is not achieved.         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements?         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements?         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements?         If this applicable requirements?         If the compliance is not achieved.         A Emission Source Description (Include ID NO.)         B. Identify applicable requirement for which compliance is not achieved:         Image: C. Narrative description of how compliance will be achieved with this applicable requirements:         Image: C. Narrative description of how compliance:         Statied Schedule of Compliance:         Statied Schedule of Compliance:         Statied Schedule of progress reports (6 month minimum):         E. Frequency for submittal of progress reports (6 month minimum):         F. Starting date of submittal of progress reports:			If NO, complete A through F below for each requirement for which	
meet such requirements on a timely basis?       If NO, complete A through F below for each requirement for which compliance is not achieved.         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements?         If YES       NO         If NO, complete A through F below for each requirement for which compliance is not achieved.         A Emission Source Description (Include ID NO.)         B. Identify applicable requirement for which compliance is not achieved:				
meet such requirements on a timely basis?       If NO, complete A through F below for each requirement for which compliance is not achieved.         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements?         If YES       NO         If NO, complete A through F below for each requirement for which compliance is not achieved.         A Emission Source Description (Include ID NO.)         B. Identify applicable requirement for which compliance is not achieved:	Mill your fooil	ity be in compliance with all ap	plicable requirements taking effect during the term of the permit and	ł
✓       YES       NO       If NO, compliance is not achieved.         If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements?         ✓       YES       NO       If NO, complete A through F below for each requirement for which compliance is not achieved.         A Emission Source Description (Include ID NO.)	meet such red	nuirements on a timely basis?		
requirements?       YES       NO       If NO, complete A through F below for each requirement for which compliance is not achieved.         A Emission Source Description (Include ID NO.)	1	YES NO	compliance is not achieved.	
YES       NO       If NO, complete A through F below for each requirement for which compliance is not achieved.         A Emission Source Description (Include ID NO.)	If this application	t is for a modification of existing emiss		
B. Identify applicable requirement for which compliance is not achieved:		YES 🗌 NO	If NO, complete A through F below for each requirement for which compliance is not achieved.	
B. Identify applicable requirement for which compliance is not achieved:	A.	Emission Source Description (Include	e ID NO.)	
C. Narrative description of how compliance will be achieved with this applicable requirements:				
Detailed Schedule of Compliance:   Step(s) Date Expected    E. Frequency for submittal of progress reports (6 month minimum):  F. Starting date of submittal of progress reports:	В.	Identify applicable requirement for wh	hich compliance is hot achieved.	
Detailed Schedule of Compliance:   Step(s) Date Expected    E. Frequency for submittal of progress reports (6 month minimum):  F. Starting date of submittal of progress reports:				
Detailed Schedule of Compliance:   Step(s) Date Expected    E. Frequency for submittal of progress reports (6 month minimum):  F. Starting date of submittal of progress reports:				
Detailed Schedule of Compliance:   Step(s) Date Expected    E. Frequency for submittal of progress reports (6 month minimum):  F. Starting date of submittal of progress reports:				
Detailed Schedule of Compliance:   Step(s) Date Expected    E. Frequency for submittal of progress reports (6 month minimum):  F. Starting date of submittal of progress reports:	C	Norrative description of how compliar	nce will be achieved with this applicable requirements:	
Step(s)	U.	Narrative description of new complete		
Step(s)				
Step(s)				
Step(s)	1			
Step(s)	1			
E. Frequency for submittal of progress reports (6 month minimum):  F. Starting date of submittal of progress reports:	D.		Date Expected	
F. Starting date of submittal of progress reports:		<u>Step(s)</u>		
F. Starting date of submittal of progress reports:				
F. Starting date of submittal of progress reports:				
F. Starting date of submittal of progress reports:				
	E	. Frequency for submittal of progress	reports (6 month minimum):	
	F	. Starting date of submittal of progres	es reports:	
		<b>·</b> · ·		
Attach Additional Sheets As Necessary		Attach	Additional Sheets As Necessary	

## FORM E5

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TITLE V	COMPLIANCE	CERTIFICATION	(Required)
		well-stien for Air Bormit	to Construct/Operati

051405	D 00/00/46	NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate	E5
	D 09/22/16	provisions of Title 15A NCAC 2Q .0520 and .0515(b)(4) the responsible company officia	al of:
	SITE NAME:	Enviva Pellets Sampson, LLC	e.
ł	SITE ADDRESS:	5 Connector Road	ē
-	CITY, NC :	Faison, NC	ł.
1	COUNTY:	Sampson	R
]	PERMIT NUMBER :	N/A	j.
ł.	CERTIFIES THAT (Ch	eck the appropriate statement(s):	
4	The facility is in c	compliance with all applicable requirements	
Ţ	In accordance wi minor modificatio process the perm	th the provisions of Title 15A NCAC 2Q .0515(b)(4) the responsible company official certifies that the proposed on meets the criteria for using the procedures set out in 2Q .0515 and requests that these procedures be used to hit application.	
I	If this box is chec	currently in compliance with all applicable requirements cked, you must also complete Form E4 "Emission Source Compliance Schedule"	
The u	ndersigned certifies	under the penalty of law, that all information and statements provided in the applicatio	ın,
based	on information and	belief formed after reasonable inquiry, are true, accurate, and complete.	
1	AM	Date: 9/25/17	
ť.	Signature of respon	nsible company official (REQUIRED, USE BLUE INK)	# <u>0</u>
4			
1	Jason Ansley, Plant Ma	anager onsible company official (Type or print)	
1	Name, little of resp		
		Attach Additional Sheets As Necessary	
(*****)			
		Received	

OCT 2 2017 Air Permits Section

## FORM B

SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED	FOR ALL SOURCES)

		EO/Division of	Air Quality - A	oplication for	Air Permit to	Construct/Or	erate		В
REVISED 09/22/16		COLUMNION OF	All wooding * A		EMISSION SC	LIRCE ID NO	ES-CHIP-1		
MISSION SOURCE DESCR	IPTION:				CONTROL DE				
.og Chipping		4			EMISSION PC	INT (STACK)	ID NO(S): N/A		
OPERATING SCENARIO	1OF			84).					
DESCRIBE IN DETAILTHE E Pre-chipped green wood is	MISSION SOURCE PROCE	SS (ATTACHT	-LUW DIAGRA	nij.	ed Unchinne	d wood is ch	ipped to speci	fication after	being
	screened and oversized cl	nips undergo a	admonatemp	ping as requi	our onomphe				
tebarked.									
TYP	E OF EMISSION SOURCE	(CHECK AND	COMPLETE AF	PROPRIATE	FORM B1-B9	ON THE FOLI	OWING PAGE	S):	
			Woodworki	ing (Form B4)		Manuf. d	of chemicals/coa	atings/inks (Fo	rm B7)
Coal,wood,oil, gas, other							tion (Form B8)		
Int.combustion engine/get	terator (Form B2)			ishing/printing					
Liquid storage tanks (For	n B3)		Storage sile	os/bins (Form	B6)	🗸 Other (F	orm Ba)		
START CONSTRUCTION DA				DATE MANUF	ACTURED:				AU(0/D)
MANUFACTURER / MODEL	NO : Andritz Inc./ HQ Chir	oper Model XL-	161	EXPECTED C	P. SCHEDULE	: 24 HR/D	AY 7 DAY	Y/WK 52	WK/YR
IS THIS SOURCE SUBJECT	TO? NSPS	S (SUBPARTS?			NESH/	P (SUBPART	S?):		
PERCENTAGE ANNUAL TH	CALIFICATION DEO FEE	0 000 M	AD MAY 25%	JUN	-AUG 25	% SEP	-NOV 25%		1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.
ENGLISHING ANNOUL IN	CRITERIA AIR	POLLUTAN	TEMISSION	IS INFORM	ATION FOR	THIS SOL	RUE	FILICOLONIC	
			SOURCE OF	EXPECTE	DACTUAL	100 C	POTENIIAL	EMISSIONS	ROLS / LIMITS)
			EMISSION	(AFTER CONT			TROLS / LIMITS)	(AFTER CONT	tons/yr
AIR POLLUTANT EMITTED			FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	IDATI	tonory1
PARTICULATE MATTER (PI	(I)		See Emission	Calculations	in Appendix	· · · · ·			
PARTICULATE MATTER<10	MICRONS (PM10)								
PARTICULATE MATTER<2.	MICRONS (PM2.5)								
SULFUR DIOXIDE (SO2)									
NITROGEN OXIDES (NOx)									
CARBON MONOXIDE (CO)									
VOLATILE ORGANIC COMP	OUNDS (VOC)								
LEAD									
OTHER	HAZARDOUS AI	PROLUTA	NT EMISSI	ONS INFOR	MATION F	OR THIS S	OURCE		
	HAZARDOUS AI	K FULLOIF	SOURCE OF	EXPECTE	D ACTUAL	1	POTENTIAL	EMISSIONS	
			EMISSION		ROLS / LIMITS)	(BEFORE CON	ITROLS / LIMITS)	(AFTER CON	TROLS / LIMITS)
		CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
HAZARDOUS AIR POLLUT	ANI	CAS NO.	See Emission	Calculations		Ċ			
		-	000 0000	1	I I				
					TION FOR	THE COLU	DCE		1
	TOXIC AIR P	OLLUTANT	EMISSIONS	S INFORMA	TION FOR	THIS 500	TUE		
			SOURCE OF	EXPE	CTED ACTUA	L EMISSIONS	AFTER CONT	ROLS / LIMIT	ATIONS
			EMISSION		o/hr	1	/day		lb/yr
TOXIC AIR POLLUTANT		CAS NO.	FACTOR		s in Appendix				
			See Emission		a in Appendix	Ī			
						1			
			1						
		hallow (0) indical	to all requested st	ate and federal e	nforceable perm	it limits (e.g. hou	rs of operation, e	mission rates) a	nd describe how

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and federal enforceable permit limits (e.g. hours of operation, emission rates) and describ these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE

Attach Additional Sheets As Necessary

### FORM B9 EMISSION SOURCE (OTHER)

	ity - Application	for Air Permit to Construct/Op	erate	B9
REVISED 09/22/16 NCDEQ/Division of Air Qual EMISSION SOURCE DESCRIPTION: Log Chipping	2	EMISSION SOURCE ID NO: E	S-CHIP-1	
		CONTROL DEVICE ID NO(S):		
OPERATING SCENARIO:1 OF1		EMISSION POINT (STACK) ID	NO(S): N/A	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAC Pre-chipped green wood is screened and oversized chips	GRAM): will undergo add	itional chipping as required. U	Inchipped wood	is chipped to
specification after being debarked.				
MATERIALS ENTERING PROCESS - CONTINUOUS	PROCESS	MAX. DESIGN	REQUESTED	
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION	(UNIT/HR)
Green Wood	ODT	71.71		
Gleen wood				
	ED ATION	MAX, DESIGN	REQUESTE	D CAPACITY
MATERIALS ENTERING PROCESS - BATCH OP	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (U	
ТҮРЕ	UNITS	CALACITY CHINE ATOM		
MAXIMUM DESIGN (BATCHES / HOUR):	(BATCHES	S/YR):		
REQUESTED LIMITATION (BATCHES / HOUR):		XIMUM FIRING RATE (MILLION	BTU/HR): N/A	
FUEL USED: N/A	DEQUEST	ED CAPACITY ANNUAL FUEL	JSE: N/A	
MAX. CAPACITY HOURLY FUEL USE: N/A	REQUEST	ED CALACITY ANNO, ET CEL		
COMMENTS:				
Attack Adv	ditional Shor	ets as Necessary		

# FORM B AUSSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

MISSION SOURCE DESCRIPTION.       CON         Breen Wood Hammermills       COF         DESCRIBE IN DETAILTHE EMISSION SOURCE PROCESS (ATTACH FLOW DIAGRAM):       EMISSION         Streen wood chips are screened and oversized chips undergo additional chipping as required.       Streen Wood chips are screened and oversized chips undergo additional chipping as required.         Coal, wood, oil, gas, other burner (Form B1)       Woodworking (Form B4)         Int.combustion engine/generator (Form B2)       DATE MANUFACT         START CONSTRUCTION DATE:       DATE MANUFACT         WANUFACTURER / MODEL NO.:       West Salem Machinery #4888SP       IEXPECTED OP. SC         START CONSTRUCTION DATE:       SOURCE SUBJECT TO?       NSPS (SUBPARTS?):	ISION SOURCE ID NO TROL DEVICE ID NO ISION POINT (STACK) M B1-B9 ON THE FOL Manuf. 1 B5) Manuf. Inciner VIRED: CHEDULE: 24 HR/E NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL // LIMITS) (BEFORE CC ONS/Yr Ib/hr	LOWING PAGES of chemicals/coat ation (Form B8) Form B9)	I, 2 and 3 7 & EP-18 and ings/inks (For WK52_ W section 112(g) EMISSIONS	m B7) /K/YR
MISSION SOURCE DESCRIPTION.       CON         Breen Wood Hammermills       COF         DEPERATING SCENARIO       1         OF       1         DESCRIBE IN DETAILTHE EMISSION SOURCE PROCESS (ATTACH FLOW DIAGRAM):         Streen wood chips are screened and oversized chips undergo additional chipping as required.         TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORI         Coal, wood, oil, gas, other burner (Form B1)       Woodworking (Form B4)         Int.combustion engine/generator (Form B2)       DATE MANUFACT         START CONSTRUCTION DATE:       DATE MANUFACT         WANUFACTURER / MODEL NO.:       West Salem Machinery #4888SP       IEXPECTED OP. SC         START CONSTRUCTION DATE:       SOURCE SUBJECT TO?       NSPS (SUBPARTS?):	TROL DEVICE ID NO( SION POINT (STACK) M B1-B9 ON THE FOL Manuf. Inciner C Other URED: CHEDULE: 24 HR/I NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL // LIMITS) (BEFORE CC ons/yr Ib/hr	5): CD-GHM-BF1 ID NO(S): EP-17 LOWING PAGES of chemicals/coat ation (Form B8) Form B9) DAY _7_ DAY/ TS Supbart B, S URCE POTENTIAL INITS)	I, 2 and 3 7 & EP-18 and bitings/inks (For WK52_ W isection 112(g) EMISSIONS (AFTER CONT	m B7) /K/YR ) ROLS / LIMITS)
irreen Wood Hammermilis      OF	M B1-B9 ON THE FOL Manuf. B5) Manuf. DES) Other URED: CHEDULE: 24 HR/I NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL CLIMITS) (BEFORE CC ONS/Yr Ib/hr	ID NO(S): EP-17 LOWING PAGES of chemicals/coat ation (Form B8) Form B9) DAY _7_ DAY/ TS Supbart B, S URCE POTENTIAL INITS)	WK _WK	m B7) /K/YR ) ROLS / LIMITS)
PERATING SCENARIO	M B1-B9 ON THE FOL Manuf. B5) Inciner VRED: CHEDULE: 24 HR/E NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL / LIMITS) (BEFORE CC ons/yr Ib/hr	LOWING PAGES of chemicals/coat ation (Form B8) Form B9) DAY _7DAY/ TS Supbart B, S JRCE POTENTIAL NTROLS / LIMITS)	WK <u>52</u> W WK <u>52</u> W WK <u>52</u> W WK <u>52</u> W WK <u>52</u> W	m B7) /K/YR ) ROLS / LIMITS)
TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORI         Coal, wood, oil, gas, other burner (Form B1)       Woodworking (Form B4)         Int.combustion engine/generator (Form B2)       Date MANUFACT         Liquid storage tanks (Form B3)       DATE MANUFACT         START CONSTRUCTION DATE:       DATE MANUFACT         MANUFACTURER / MODEL NO.:       West Salem Machinery #4888SP       EXPECTED OP. SC         STHIS SOURCE SUBJECT TO?       NSPS (SUBPARTS?):       V         STHIS SOURCE SUBJECT TO?       NSPS (SUBPARTS?):       V         CRITERIA AIR POLLUTANT EMISTIONS INFORMATIC       CRITERIA AIR POLLUTANT EMISSION SINFORMATIC         PARTICULATE MATTER (PM)       See Emission Calculations in ApARTICULATE MATTER         PARTICULATE MATTER 2.5 MICRONS (PMro)       See Emission Calculations in ApARTICULATE MATTER         PARTICULATE MATTER       Image: Composition of the composition o	B5) Inciner Other Other URED: CHEDULE: 24 HR/C NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL / LIMITS) (BEFORE CC ons/yr Ib/hr	Ation (Form B8) Form B9) DAY _7 _ DAY/ S Supbart B, S JRCE POTENTIAL NTROLS / LIMITS)	WK 52 W section 112(g) EMISSIONS (AFTER CONT	/K/YR ) Rols / Limits)
TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORI         Coal, wood, oil, gas, other burner (Form B1)       Woodworking (Form B4)         Int.combustion engine/generator (Form B2)       Date MANUFACT         Liquid storage tanks (Form B3)       DATE MANUFACT         START CONSTRUCTION DATE:       DATE MANUFACT         MANUFACTURER / MODEL NO.:       West Salem Machinery #4888SP       EXPECTED OP. SC         STHIS SOURCE SUBJECT TO?       NSPS (SUBPARTS?):       V         STHIS SOURCE SUBJECT TO?       NSPS (SUBPARTS?):       V         CRITERIA AIR POLLUTANT EMISTIONS INFORMATIC       CRITERIA AIR POLLUTANT EMISSION SINFORMATIC         PARTICULATE MATTER (PM)       See Emission Calculations in ApARTICULATE MATTER         PARTICULATE MATTER 2.5 MICRONS (PMro)       See Emission Calculations in ApARTICULATE MATTER         PARTICULATE MATTER       Image: Composition of the composition o	B5) Inciner Other Other URED: CHEDULE: 24 HR/C NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL / LIMITS) (BEFORE CC ons/yr Ib/hr	Ation (Form B8) Form B9) DAY _7 _ DAY/ S Supbart B, S JRCE POTENTIAL NTROLS / LIMITS)	WK 52 W section 112(g) EMISSIONS (AFTER CONT	/K/YR ) Rols / Limits)
Coal,wood,oil, gas, other burner (Form B1) Int.combustion engine/generator (Form B2) Liquid storage tanks (Form B3) START CONSTRUCTION DATE: MANUFACTURER / MODEL NO.: West Salem Machinery #4888SP EXPECTED OP, SX MAR-MAY 25% JUN-AUG 25% STHIS SOURCE SUBJECT TO? NSPS (SUBPARTS?): STHIS SOURCE SUBJECT TO? NSPS (SUBPARTS?): CRITERIA AIR POLLUTANT EMISSIONS INFORMATION CRITERIA AIR POLLUTANT EMISSIONS INFORMATION FACTOR Ib/hr to PARTICULATE MATTER (PM) PARTICULATE MATTER (PM) PARTARDOUS AIR POLLUTANT PARTER (PM) PARTER (PM	B5) Inciner Other Other URED: CHEDULE: 24 HR/C NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL / LIMITS) (BEFORE CC ons/yr Ib/hr	Ation (Form B8) Form B9) DAY _7 _ DAY/ S Supbart B, S JRCE POTENTIAL NTROLS / LIMITS)	WK 52 W section 112(g) EMISSIONS (AFTER CONT	/K/YR ) Rols / Limits)
Coal,wood,oil, gas, other burner (Form B1) Int.combustion engine/generator (Form B2) Liquid storage tanks (Form B3) START CONSTRUCTION DATE: MANUFACTURER / MODEL NO.: West Salem Machinery #4888SP EXPECTED OP, SX MAR-MAY 25% JUN-AUG 25% STHIS SOURCE SUBJECT TO? NSPS (SUBPARTS?): STHIS SOURCE SUBJECT TO? NSPS (SUBPARTS?): CRITERIA AIR POLLUTANT EMISSIONS INFORMATION CRITERIA AIR POLLUTANT EMISSIONS INFORMATION FACTOR Ib/hr to PARTICULATE MATTER (PM) PARTICULATE MATTER (PM) PARTARDOUS AIR POLLUTANT PARTER (PM) PARTER (PM	B5) Inciner Other Other URED: CHEDULE: 24 HR/C NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL / LIMITS) (BEFORE CC ons/yr Ib/hr	Ation (Form B8) Form B9) DAY _7 _ DAY/ S Supbart B, S JRCE POTENTIAL NTROLS / LIMITS)	WK 52 W section 112(g) EMISSIONS (AFTER CONT	/K/YR ) Rols / Limits)
Coaliny/000/initiabiling/printing (Form B2)       Coating/finishing/printing (Form B3)         Liquid storage tanks (Form B3)       DATE MANUFACTI         START CONSTRUCTION DATE:       DATE MANUFACTI         WANUFACTURER / MODEL NO.:       West Salem Machinery #4888SP       EXPECTED OP. SC         WANUFACTURER / MODEL NO.:       West Salem Machinery #4888SP       EXPECTED OP. SC         START CONSTRUCTION DATE:       JUN-AUG 25%       JUN-AUG 25%         STHIS SOURCE SUBJECT TO?       NSPS (SUBPARTS?):       JUN-AUG 25%         PERCENTAGE ANNUAL THROUGHPUT (%):       DEC-FEB       25%       MAR-MAY 25%       JUN-AUG 25%         PERCENTAGE ANNUAL THROUGHPUT (%):       DEC-FEB       25%       MAR-MAY 25%       JUN-AUG 25%         PERCENTAGE ANNUAL THROUGHPUT (%):       DEC-FEB       25%       MAR-MAY 25%       JUN-AUG 25%         PARTICULATE MATTER (PM)       See Emission       Cacluations in Af         PARTICULATE MATTER<(PM)	CHEDULE: 24 HR/E NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL / LIMITS) (BEFORE CC ons/yr lb/hr	Form B9) DAY _7 _ DAY/ S Supbart B, S JRCE POTENTIAL NTROLS / LIMITS)	EMISSIONS (AFTER CONT	) Rols / Limits)
Intcombustion enginergeneration (Form B3)       Storage silos/bins (Form B6)         Strart CONSTRUCTION DATE:       DATE MANUFACT         MANUFACTURER / MODEL NO.: West Salem Machinery #4888SP       [EXPECTED 0P, SC         STHIS SOURCE SUBJECT TO?       NSPS (SUBPARTS?):       2         DEFERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB       25%       MAR-MAY 25%       JUN-AUG 25%         CRITERIA AIR POLLUTANT EMISSIONS INFORMATION       EXPECTED AC       EXPECTED AC         EMISSION       FACTOR       Ib/hr       t         PARTICULATE MATTER (PM)       See Emission Calculations in Ap         PARTICULATE MATTER (PM)       See Emission Calculations in Ap         PARTICULATE MATTER       MACHINE (PM10)       E         PARTICULATE MATTER       Image (PM25)       E       E         SULFUR DIOXIDE (SO2)       Image (CONS)       Image (CONS)       Image (CONS)         VOLATILE ORGANIC COMPOUNDS (VOC)       Image (CONTROLS)       Image (CONTROLS)         LEAD       SOURCE OF       EXPECTED AC       Image (AFER CONTROLS)         MARADY       See Emission Calculations in Ap       Image (AFER CONTROLS)         HAZARDOUS AIR POLLUTANT       CAS NO.       EMISSION       Image (AFER CONTROLS)         HAZARDOUS AIR POLLUTANT       See Emission Calculations in Ap       Image (AFER C	CHEDULE: 24 HR/I  NESHAP (SUBPAR SEP-NOV 25%  TUAL  TUMITS) (BEFORE CC ons/yr  Ib/hr	DAY _7 DAY/ Supbart B, S JRCE POTENTIAL NTROLS / LIMITS)	EMISSIONS (AFTER CONT	) ROLS / LIMITS)
Liquid storage tarks (rom bs)       DATE MANUFACTUR         START CONSTRUCTION DATE:       DATE MANUFACTURER / MODEL NO.: West Salem Machinery #4888SP       EXPECTED OP. SG         MANUFACTURER / MODEL NO.: West Salem Machinery #4888SP       EXPECTED OP. SG         S THIS SOURCE SUBJECT TO?       NSPS (SUBPARTS?):	URED: CHEDULE: 24 HR/I NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL TLIMITS) (BEFORE CC ons/yr Ib/hr	DAY _7 DAY/ Supbart B, S JRCE POTENTIAL NTROLS / LIMITS)	EMISSIONS (AFTER CONT	) ROLS / LIMITS)
START CONSTRUCTION DATE. WANUFACTURER / MODEL NO.: West Salem Machinery #4888SP EXPECTED OP. SC WANUFACTURER / MODEL NO.: West Salem Machinery #4888SP EXPECTED OP. SC STHIS SOURCE SUBJECT TO? NSPS (SUBPARTS?): PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25% MAR-MAY 25% JUN-AUG 25% PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25% MAR-MAY 25% JUN-AUG 25% PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25% MAR-MAY 25% JUN-AUG 25% PARTICULATE MATTER (PM) PARTICULATE MATTER (PM) PARTICULATE MATTER (PM) PARTICULATE MATTER <10 MICRONS (PM <sub>10</sub> ) PARTICULATE MATTER <2.5 MICRONS (PM <sub>2.5</sub> ) SULFUR DIOXIDE (SO2) NITROGEN OXIDES (NOX) CARBON MONOXIDE (CO) VOLATILE ORGANIC COMPOUNDS (VOC) LEAD OTHER HAZARDOUS AIR POLLUTANT EMISSIONS INFORMA HAZARDOUS AIR POLLUTANT CAS NO. FACTOR Ib/hr See Emission Calculations in A SOURCE OF EXPECTED AC (AFTER CONTROLS Ib/hr SEC EMISSION INFORMA ACTOR ID	CHEDULE:         24         HR/f           NESHAP (SUBPAR)         SUBPAR           SEP-NOV         25%           ON FOR THIS SO           TUAL           TLIMITS)         (BEFORE CC ons/r)           Ons/r         Ib/hr	Support B, S JRCE POTENTIAL	EMISSIONS (AFTER CONT	) Rols / Limits)
MANUPACTURERY MODEL NO West outern west	NESHAP (SUBPAR SEP-NOV 25% ON FOR THIS SO TUAL (LIMITS) (BEFORE CC ons/yr lb/hr	Support B, S JRCE POTENTIAL	EMISSIONS (AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED PARTICULATE MATTER (PM) PARTICULATE MATTER 25 MICRONS (PM <sub>10</sub> ) PARTICULATE MATTER 25 MICRONS (PM <sub>10</sub> ) PARTICULATE MATTER 2.5 MICRONS (PM <sub>25</sub> ) SULFUR DIOXIDE (SO2) NITROGEN OXIDES (NOX) CARBON MONOXIDE (CO) VOLATILE ORGANIC COMPOUNDS (VOC) LEAD OTHER HAZARDOUS AIR POLLUTANT HAZARDOUS AIR POLLUTANT CAS NO. FACTOR CAS NO. CAS	TUAL (BEFORE CC (DIMITS) (BEFORE CC (DIMITS) (BEFORE CC	NTROLS / LIMITS)	(AFTER CONT	
AIR POLLUTANT EMITTED       SOURCE OF EMISSION       EXPECTED AC (AFTER CONTROLS/ Ib/hr         PARTICULATE MATTER (PM)       See Emission       Calculations in Appendix of the control of the contro	(BEFORE CC ons/yr Ib/hr	NTROLS / LIMITS)	(AFTER CONT	
AIR POLLUTANT EMITTED AIR POLLUTANT EMITTED PARTICULATE MATTER (PM) PARTICULATE MATTER (PM) PARTICULATE MATTER <10 MICRONS (PM <sub>10</sub> ) PARTICULATE MATTER <2.5 MICRONS (PM <sub>25</sub> ) SULFUR DIOXIDE (SO2) NITROGEN OXIDES (NOx) CARBON MONOXIDE (CO) VOLATILE ORGANIC COMPOUNDS (VOC) LEAD OTHER HAZARDOUS AIR POLLUTANT CAS NO. FACTOR KEXPECTED AC (AFTER CONTROLS) Ib/hr EXPECTED AC (AFTER CONTROLS) ID/hr EXPECTED (AFTER CONTROLS) ID/HC (AFTER CONTRO	(BEFORE CC ons/yr Ib/hr	NTROLS / LIMITS)	(AFTER CONT	
AIR POLLUTANT EMITTED AIR POLLUTANT EMITTED PARTICULATE MATTER (PM) PARTICULATE MATTER <10 MICRONS (PM <sub>10</sub> ) PARTICULATE MATTER<2.5 MICRONS (PM <sub>25</sub> ) SULFUR DIOXIDE (SO2) NITROGEN OXIDES (NOX) CARBON MONOXIDE (CO) VOLATILE ORGANIC COMPOUNDS (VOC) LEAD OTHER HAZARDOUS AIR POLLUTANT CAS NO. FACTOR BUTCULUTANT CAS NO. FACTOR FAC	(BEFORE CC cons/yr Ib/hr			
AIR POLLUTANT EMITTED FACTOR b/hr t PARTICULATE MATTER (PM) See Emission Calculations in Ag PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	ons/yr lb/hr	tons/yr	Ib/hr	
AIR POLLUTANT EMITTED PARTICULATE MATTER (PM) PARTICULATE MATTER <10 MICRONS (PM <sub>10</sub> ) PARTICULATE MATTER <10 MICRONS (PM <sub>25</sub> ) SULFUR DIOXIDE (SO2) NITROGEN OXIDES (NOX) CARBON MONOXIDE (CO) VOLATILE ORGANIC COMPOUNDS (VOC) LEAD OTHER HAZARDOUS AIR POLLUTANT CAS NO. FACTOR HAZARDOUS AIR POLLUTANT See Emission Calculations in A SOURCE OF EMISSION FACTOR Ib/hr See Emission Calculations in A CAS NO. FACTOR Ib/hr See Emission Calculations in A CAS NO. FACTOR Ib/hr See Emission Calculations in A CAS NO. FACTOR Ib/hr See Emission Calculations in A CAS NO. FACTOR Ib/hr See Emission Calculations in A CAS NO. FACTOR Ib/hr See Emission Calculations in A CAS NO. FACTOR Ib/hr FACTOR Ib/hr FACTOR Ib/hr FACTOR Ib/hr FACTOR FACTO				
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> ) PARTICULATE MATTER<2.5 MICRONS (PM <sub>25</sub> ) SULFUR DIOXIDE (SO2) NITROGEN OXIDES (NOx) CARBON MONOXIDE (CO) VOLATILE ORGANIC COMPOUNDS (VOC) LEAD OTHER HAZARDOUS AIR POLLUTANT EMISSIONS INFORMA SOURCE OF EMISSION HAZARDOUS AIR POLLUTANT CAS NO. HAZARDOUS AIR POLLUTANT See Emission Calculations in A Source of EMISSION FACTOR Ib/hr See Emission Calculations in A CAS NO. CAS NO.				
PARTICULATE MATTER<2.5 MICRONS (PM2.5) SULFUR DIOXIDE (SO2) NITROGEN OXIDES (NOX) CARBON MONOXIDE (CO) VOLATILE ORGANIC COMPOUNDS (VOC) LEAD OTHER HAZARDOUS AIR POLLUTANT EMISSIONS INFORMA SOURCE OF EMISSION FACTOR B/ATER CONTROLS Ib/hr See Emission Calculations in A See Emission Calculations in A				
SULFUR DIOXIDE (SO2)       Image: Constraint of the second s				
NITROGEN OXIDES (NOx) CARBON MONOXIDE (CO) VOLATILE ORGANIC COMPOUNDS (VOC) LEAD OTHER HAZARDOUS AIR POLLUTANT EMISSIONS INFORMA SOURCE OF EMISSION HAZARDOUS AIR POLLUTANT CAS NO. FACTOR Ib/hr See Emission Calculations in A CAS NO. CAS NO				
CARBON MONOXIDE (CO)       VOLATILE ORGANIC COMPOUNDS (VOC)       Image: Composition of the state o				
VOLATILE ORGANIC COMPOUNDS (VOC) LEAD OTHER HAZARDOUS AIR POLLUTANT EMISSIONS INFORMA A HAZARDOUS AIR POLLUTANT CAS NO. FACTOR Ib/hr See Emission Calculations in A See Emission Calculations in A				
LEAD OTHER HAZARDOUS AIR POLLUTANT EMISSIONS INFORMA A HAZARDOUS AIR POLLUTANT CAS NO. FACTOR Ib/hr See Emission Calculations in A See Emission Calculation				
OTHER  HAZARDOUS AIR POLLUTANT EMISSIONS INFORMA SOURCE OF EMISSION (AFTER CONTROLS FACTOR Ib/hr See Emission Calculations in A CAS NO. CAS NO				1
HAZARDOUS AIR POLLUTANT     CAS NO.     SOURCE OF EMISSION     EXPECTED AC (AFTER CONTROLS Ib/hr       See Emission Calculations in A       Image: Control of the second seco				
HAZARDOUS AIR POLLUTANT     CAS NO.     SOURCE OF EMISSION     EXPECTED AC (AFTER CONTROLS Ib/hr       See Emission Calculations in A       Image: Control of the second seco	TION FOR THIS S	OURCE		
HAZARDOUS AIR POLLUTANT CAS NO. EMISSION FACTOR Ib/hr See Emission Calculations in A CAS NO. CAS NO. EMISSION FACTOR Ib/hr CAS NO. CAS	JUAL		EMISSIONS	
HAZARDOUS AIR POLLUTANT     CAS NO.     FACTOR     Ib/hr       See Emission Calculations in A       Image: Sem		NTROLS / LIMITS)		TROLS / LIMITS)
HAZARDOUS AIR POLLUTANT CAS NO. Theorem Calculations in A See Emission Calculations in A	tons/yr lb/hr	tons/yr	lb/hr	tons/yr
Image: Section of the section of t	ppendix C			
				-
TOXIC AIR POLLUTANT EMISSIONS INFORMATIO	IN FOR THIS SOL	RCE		
ISOURCE OF EXPECTE	ED ACTUAL EMISSION	S AFTER CONTI	ROLS / LIMIT	ATIONS
				lb/yr
CAS NO. FACTOR Ib/hr		lb/day		
TOXIC AIR POLLUTANT CAS NO. FACTOR See Emission Calculations in A	Appendix C			
				describe bow
Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and federal enforces.			along and and and	describe now

these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE Attach Additional Sheets As Necessary

## FORM B9 EMISSION SOURCE (OTHER)

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	Air Quality - Application	for Air Permit to Construct/Open	rate B9
EVISED 09/22/16 NCDEQ/Division of MISSION SOURCE DESCRIPTION:	An equality - Application	EMISSION SOURCE ID NO: ES	-GHM-1, 2, 3
EMISSION SOURCE DESCRIPTION. Green Wood Hammermills		CONTROL DEVICE ID NO(S): C	D-GHM-BF1, 2, and 3
	1	EMISSION POINT (STACK) ID N	IO(S): EP-17 & EP-18, and EP-22
		EMISSION ON ON OTHER	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FL Green wood chips are screened and oversized ch	OW DIAGRAM):	al chipping as required.	
Breen wood chips are screened and oversized ch	ips will undergo avara	BI 01144-13 1-1	
		MAX. DESIGN	REQUESTED CAPACITY
MATERIALS ENTERING PROCESS - CONT	UNITS	CAPACITY (UNIT/HR)	LIMITATION(UNIT/HR)
TYPE	ODT	71.71	
Green Wood		/1	
MATERIALS ENTERING PROCESS - BA	TCH OPERATION	MAX. DESIGN	REQUESTED CAPACITY
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UNIT/BATCH)
ITFE			
MAXIMUM DESIGN (BATCHES / HOUR);			
MAXIMUM DESIGN (BATCHES / HOUR): PEOLIESTED LIMITATION (BATCHES / HOUR):	(BATCHES		
REQUESTED LIMITATION (BATCHES / HOUR):			BTU/HR): <b>N/A</b>
MAXIMUM DESIGN (BATCHES / HOUR): REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED: <b>N/A</b> MAX. CAPACITY HOURLY FUEL USE: <b>N/A</b>	TOTAL MA	G/YR): XIMUM FIRING RATE (MILLION ED CAPACITY ANNUAL FUEL U	BTU/HR): N/A SE: N/A

### FORM C1 CONTROL DEVICE (FABRIC FILTER)

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	n of Air Quality - Ap		Permit to C	onstruct/Operate		C1
	CONTROLS EMIS	SIGNS EDOM W	HICH EMISS	SION SOURCE ID	NO(S): ES-GHM-	1, 2, 3
CONTROL DEVICE ID NO: CD-GHM-BF1, 2, 3	CONTRUES ENIS	IES OF CONTRO	DIS	NO.	1 OF 1	UNITS
EMISSION POINT (STACK) ID NO(S): EP-17, EP-18, EP-2	2 POSITION IN SER	ES OF CONTRO				
OPERATING SCENARIO:		P.E. SEAL REQ		2 2g 0112)?	YES [	NO NO
_1OF1						
DESCRIBE CONTROL SYSTEM: A bin vent filter is used to create a slight negative pres hammermill. The bin vent is sized to offset the air disp	sure on each green l lacement created by	hammermill. The material fee	e bin vent o ed to the ha	ollects dust from mmermill.	the air volume pi	esent in the
		PM	PM-10	PM-2.5		_
POLLUTANTS COLLECTED:						_
BEFORE CONTROL EMISSION RATE (LB/HR):		%		%	%	%
CAPTURE EFFICIENCY:		~99.9 %	~99.9	% ~99.9	%	%
CONTROL DEVICE EFFICIENCY:		%			%	%
CORRESPONDING OVERALL EFFICIENCY:				_		-
EFFICIENCY DETERMINATION CODE:						
TOTAL AFTER CONTROL EMISSION RATE (LB/HR):						-
PRESSURE DROP (IN H <sub>2</sub> 0): MIN: MAX: 4"	GAUGE?		NO			
BULK PARTICLE DENSITY (LB/FT <sup>3</sup> ): 1.43E-06		INLET TEMPER				
POLLUTANT LOADING RATE: LB/HR	GR/FT <sup>3</sup>	OUTLET TEMP	PERATURE	(°F) Ambient		
INLET AIR ELOW RATE (ACEM):		FILTER OPER	ATING TEM	P (°F): N/A		
NO. OF COMPARTMENTS: 1 NO. OF BAGS PI	R COMPARTMENT:	1		LENGTH OF BA		
NO. OF CARTRIDGES: FILTER SURFAC	E AREA PER CARTE	RIDGE (FT <sup>2</sup> ): 377		DIAMETER OF	BAG (IN.): 5.875	
TOTAL FILTER SURFACE AREA (FT <sup>2</sup> ):	AIR TO CLOTH F					
DRAFT TYPE:	FORCED/POSITI	VE	FILTER	MATERIAL:		FELTED
DESCRIBE CLEANING PROCEDURES				PAR	TICLE SIZE DIST	
	SONIC			SIZE	WEIGHT %	CUMULATIVE
	SIMPLE BAG CO	LLAPSE		(MICRONS)	OF TOTAL	%
	RING BAG COLL			0-1	Ur	known
				1-10		
				10-25		
DESCRIBE INCOMING AIR STREAM: The air stream will contain wood dust particulate emi	ssions.			25-50		
The air stream will contain wood duot paraotice				50-100		
				>100		
					TOT	AL = 100
ON A SEPARATE PAGE, ATTACH A DIAGRAM SHOW COMMENTS:	NG THE RELATIONS	SHIP OF THE CO	NTROL DE	VICE TO ITS EMIS	SION SOURCE(S	):
A	ttach Addition	al Sheets As	s Necess	sary		

## FORM B

SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR	ALL	SOURCES)
SPECIFIC EMISSION SOURCE INFORMATION (RECOMED FORM		

SPE	CIFIC EIVIISSION	JUUNUL			Air Permit to	Construct/On	erate		В
REVISED 09/22/16		EQ/Division of	Air Quality - Ap	pplication for	AI FEITIL O	URCE ID NO	ES-BARKHOG	®	
MISSION SOURCE DESCRI	PTION:			-	CONTROL DE	VICE ID NO/S	N/A		
Barkhog					EMISSION PO	INT (STACK)	D NO(S): N/A		
	1OF	1			ENIIGAION PO				
THE REPORT OF THE PARTY AND THE PARTY	MISSION SOURCE PROCE	SS (ATTACH F	LOW DIAGRAM	VI):					
Green wood bark fuel is sen	t to the bark hog to break i	up bark into sr	maller pieces pi	rior to the dry	er.				
	-								
				PROPRIATE	CODM B1 B9	ON THE FOLL	OWING PAGES	5):	
TYF	E OF EMISSION SOURCE	(CHECK AND	COMPLETE AP			Manuf c	f chemicals/coa	tings/inks (Fo	rm B7)
Coal wood oil, gas, other t	ourner (Form B1)		VVOQQWOFKI	ng (Form B4) shing/printing			ion (Form B8)	-	
Int combustion engine/ger	erator (Form B2)	-	Coating/finit	sning/printing		J Other (F	orm B9)		
Liquid storage tanks (Form	n B3)		Storage slic	DATE MANUF		o outor fr			
CTART CONSTRUCTION DA	TE				P. SCHEDULE	· 24 HR/D	AY 7 DAY	//WK _52_ \	NK/YR
MANUFACTURER / MODEL	NO.: West Salem Machine	ry #4048BP		EXPECTED	NESHA	P (SUBPART			
IS THIS SOURCE SUBJECT	TO? NSPS	(SUBPARTS?	MANY 0E0/ 111	N ALIC 250/	SEP-NOV	25%			
IS THIS SOURCE SUBJECT PERCENTAGE ANNUAL THI	CRITERIA AIR F	25% MAR-	WA1 25% JU	SINFORM	ATION FOR	THIS SOL	JRCE		
	CRITERIA AIR F	OLLUTAN	1 Linicolore		DACTUAL		POTENTIAL	EMISSIONS	
			SOURCE OF	(AFTER CONT	DOLE (LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
			EMISSION	(AFTER CONT Ib/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
AIR POLLUTANT EMITTED			FACTOR See Emission	Coloulation i	n Annendiy C	10,111			
PARTICILI ATE MATTER (PM	A)		See Emission	calculation	Appendix C				
PARTICULATE MATTER<10	MICRONS (PM10)								
PARTICULATE MATTER<2.5	MICRONS (PM25)								
SULFUR DIOXIDE (SO2)									
NITROGEN OXIDES (NOx)									
CARBON MONOXIDE (CO)									
VOLATILE ORGANIC COMP	OUNDS (VOC)								
LEAD									
OTHER	HAZARDOUS AI	0.0011117	ALTEMICON	ONS INFOR	MATION	OR THIS S	OURCE		
	HAZARDOUS AII	RPOLLOTA	LCOUDCE OF	EXPECTS	DACTUAL	1	POTENTIAL	EMISSIONS	
			SOURCE OF EMISSION		ROLS / LIMITS)	(BEFORE CON	ITROLS / LIMITS)	(AFTER CON	TROLS / LIMITS)
1				lb/hr	tons/vr	lb/hr	tons/yr	lb/hr	tons/yr
HAZARDOUS AIR POLLUT	ANT	CAS NO.	FACTOR	Calculation	in Appendix C				
			See Emission	Calculation					
									1
	TOXIC AIR P	OLUTAN	EMISSIONS	NEORM	TION FOR	THIS SOU	RCE		
	TOXIC AIR P	OLLOTANI	LAQUEOF			EMISSIONS	AFTER CONT	ROLS / LIMIT	ATIONS
		1	SOURCE OF	EXPI	ECTED ACTUA	L ENISSIONS			
			EMISSION		b/hr	1	o/day		lb/yr
TOXIC AIR POLLUTANT		CAS NO.	FACTOR		in Appendix C				
			See Emissio	II Calculation	in Appendix (				
			_						
		_							
	evictions and supporting docume					-			

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and federal enforceable perint innits (e.g. hou's or operation, and the series are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE BI THROUGH B9 FORM FOR EACH SOURCE

Attach Additional Sheets As Necessary

## FORM B9 EMISSION SOURCE (OTHER)

EVISED 09/22/16 MISSION SOURCE DESCRIP	NODEO/Division of Air Quality	- Application	for Air Permit to Construct/Op	erate	<b>B</b> 9				
JISSION SOURCE DESCRIP	TION:		EMISSION SOURCE ID NO: E	S-BARKHOG					
ark hog			CONTROL DEVICE ID NO(S):						
PERATING SCENARIO:	1 OF1		EMISSION POINT (STACK) ID						
	COLOR (ATTACH ELOW DIAGE	RAM):	A						
reen wood bark fuel is sent	to the bark hog to break up bar	rk into smaller	pieces prior to the dryer.						
MATEDIAL & ENTERIN	G PROCESS - CONTINUOUS PI	ROCESS	MAX. DESIGN		D CAPACITY				
	TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION	I(UNIT/HR)				
	en Wood	ODT	30						
MATERIALSENTER	ING PROCESS - BATCH OPER	RATION	MAX. DESIGN		D CAPACITY				
	TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (	UNIT/BATCH)				
MAXIMUM DESIGN (BATCHE		BATCHES	6/YR):						
	ATCHES / HOORY.			BTU/HR): N/A					
		REQUEST	ED CAPACITY ANNUAL FUEL	USE: N/A	TED CAPACITY ANNUAL FUEL USE: N/A				
FUEL USED: N/A MAX. CAPACITY HOURLY FU	UELLICE, MIA								
VIAXIMUM DESIGN (DATONE	ATCHES / HOUR):	(BATCHES TOTAL MA REQUEST	XIMUM FIRING I	RATE (MILLION	RATE (MILLION BTU/HR): N/A NNUAL FUEL USE: N/A				

Attach Additional Sheets as Necessary

### FORM B

## N (REQUIRED FOR ALL SOURCES)

SPECIFIC EMISSIC				All- Downith the C	onetruct/One	ate		в
	CDEQ/Division o	f Air Quality - Ap		CHAICCION COL	IDCC ID MILY	SIDRIER		
MISSION SOURCE DESCRIPTION:				CONTROL DE	ICE ID NO(S)	CO-DC1- thro	ugh CD-DC4,	CD-WESP
Green Wood Direct-Fired Rotary Dryer System				EMISSION POL	NT (STACK) IF	NO(S) EP-1	-9	
OFOF	1							
DESCRIBE IN DETAILTHE EMISSION SOURCE PROC Green wood is conveyed to a rotary dryer system. Di	ESS (ATTACH FL	OW DIAGRAM):			flas human and	tom Air emis	sions are con	rolled by
escribe in permittent a rotary dryer system. Di	rect contact heat i	is provided to th	ie system via	a 250.4 MMBIL	(In purner sys	ting after the	cyclones.	-
Green wood is conveyed to a rotary dryer system. Di syclones for bulk particulate removal and additional	particulate is remo	oved utilizing a v	vet electrosta	tic precipitato	(WESP) oper	and aller the	Gjolonican	
yciones for bulk particulate removal and dedicional						MINO DACER		
TYPE OF EMISSION SOUR	CE (CHECK AND	COMPLETE AP	PROPRIATE	FORM B1-B9 C	N THE FOLLO	WING PAGES	): Li vicka (Form	97)
TIPE OF EMISSION COOL		VVQQQWOrkin					ings/inks (For	1077
Coal,wood,oil, gas, other burner (Form B1)	П	Coating/finis	hing/printing (	Form B5)		on (Form B8)		
Int.combustion engine/generator (Form B2)	H	Storage silos	s/bins (Form B	36)	Other (Fo	rm B9)		
Liquid storage tanks (Form B3)			DATE MANUE	ACTURED:				(1)(1)
START CONSTRUCTION DATE:	COLCI-La Doca		EXPECTED O	D SCHEDULE	24 HR/DA	7 DAY/		(YR
MANUFACTURER / MODEL NO.: Teal Sales Inc. 24' ×	80' Single Pass L			V NESHA	P (SUBPARIS	Subpart B, S	ection 112(g)	
S THIS SOURCE SUBJECT TO?	PS (SUBPARTS?)	ANC 0597 11 IN	ALIG 25%	SEP-NOV 25%	0			
S THIS SOURCE SUBJECT TO?NS PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FE	IR POLLUTAN		SINFORM	ATION FOR	THIS SOU	RCE		Non Aller
CRITERIA A	IR PULLUTAN			DACTUAL		POTENTIAL	EMISSIONS	
		SOURCE OF			(BEFORE CON		(AFTER CONT	ROLS / LIMITS)
		EMISSION		ROLS / LIMITS)	Ib/hr	tons/yr	lb/hr	tons/yr
AIR POLLUTANT EMITTED		FACTOR	lb/hr	tons/yr	1.0/11	toriory.		
PARTICULATE MATTER (PM)		See Emission	Calculations	in Appendix C				
PARTICULATE MATTER < 10 MICRONS (PM10)								
PARTICULATE MATTER<2.5 MICRONS (PM2.5)								
SULFUR DIOXIDE (SO2)								
		· · · · · · · · · · · · · · · · · · ·						
NITROGEN OXIDES (NOx)								
CARBON MONOXIDE (CO)								
VOLATILE ORGANIC COMPOUNDS (VOC)								
LEAD								
OTHER	AIR POLLUT	ANT EMISSIC	ONS INFOR	RMATION FO	DR THIS SC	URCE		
HAZARDOUS	AIRFOLLON	SOURCE OF	FXPECT	D ACTUAL		POTENTIAL	EMISSIONS	
		EMISSION		TROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)		TROLS / LIMITS)
			lip/hr	tons/yr	lb/hr	tons/yr	ib/hr	tons/yr
4		L FACTOR						
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR	Coloulations					
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR See Emission	Calculations	in Appendix C				
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR See Emission	Calculations					
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR See Emission	Calculations					
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR See Emission	Calculations					
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR See Emission	Calculations					
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR See Emission	Calculations					
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR See Emission	Calculations					
		See Emission	Calculations	in Appendix C				
		See Emission	Calculations	in Appendix C	THIS SOUF	CE		
	CAS NO.	See Emission	Calculations	in Appendix C	THIS SOUF	CE	TROLS / LIMIT/	ATIONS
		See Emission	Calculations	in Appendix C	THIS SOUF	CE AFTER CONT	ROLS / LIMIT,	
	R POLLUTAN	See Emission	Calculations	in Appendix C	THIS SOUR	CE AFTER CONT	ROLS / LIMIT/	ATIONS
		See Emission	Calculations	In Appendix C	THIS SOUR AL EMISSIONS	AFTER CONT	ROLS / LIMIT,	
	R POLLUTAN	See Emission	Calculations	In Appendix C	THIS SOUR AL EMISSIONS	AFTER CONT	ROLS / LIMIT/	
	R POLLUTAN	See Emission	Calculations	In Appendix C	THIS SOUR AL EMISSIONS	AFTER CONT	TROLS / LIMIT/	
	R POLLUTAN	See Emission	Calculations	In Appendix C	THIS SOUR AL EMISSIONS	AFTER CONT	ROLS / LIMIT,	
	R POLLUTAN	See Emission	Calculations	In Appendix C	THIS SOUR AL EMISSIONS	AFTER CONT	ROLS / LIMIT,	
	R POLLUTAN	See Emission	Calculations	In Appendix C	THIS SOUR AL EMISSIONS	AFTER CONT	ROLS / LIMIT/	
	R POLLUTAN CAS NO.	See Emission	Calculations S INFORM EXF	in Appendix C ATION FOR PECTED ACTU Ib/hr s in Appendix (	THIS SOUR AL EMISSIONS	/day		lb/yr

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and requested state and

## FORM B1

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EMISSION SOURCE (WOOD, COAL	., OIL, (	GAS, C	DTHER	FUEL-FIRED	BURNER
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ISSIGN SOURCE DESCRIPTION: Green Wood Direct-Fired Rotary Dryer  Stem  Stem Stem	EVISED 09/22/16		NCDEQ/Divisio	n of Air Quality	- Application	n for Air Permit	to Constr	uct/Opera	te		B1	
Identify       CONTROL DEVICE ID NO(S): ED-01         ERATING SCENARIO.       1 OF 1         ERATING MECHANISM.       INDIRECT         ATING MECHANISM.       INDIRECT         ATING MECHANISM.       INDIRECT         WOOD FIRED       BURNER         WOOD TYPE.       BARK         WOOD TYPE.       BARK         WOOD TOTHEL       BURNER         WOOD TYPE.       BARK         WOOD TYPE.       BARK         WOOD TOTHEL       CONTROLLED WOOD         UNCONTROLLED       CONTROLLED WORE INTOL         CONTROLLED       WOOD THREE STOKER         ILE FEED METHOD. NA       LAT TRANSFER MEDIA         SPREADER STOKER       FUUDIZED BED         UNCONTROLLED       UNCONTROLLED         UNCONTROLLED       UNCONTROLLED         UNCONTROLLED       UNCONTROLLED         UNCONTROLLED       UNCONTROLLED         UNCONTROLLED       UNCONTROLLED         UNCONT	MISSION SOURCE DESC	RIPTION: G	reen Wood Dire	ect-Fired Rotary	Drver	MISSION SOUR	RCE ID NO	D: ES-DR'	YER			
ENATING SECHARM SCRIE USE PROCESS HEAT SCRIE USE CONTINUOUS USE STAND BY/EMERGENCY OTHER (DESCRIBE): ATING MECHANISM: INDIRECT ATING INCONTROLLED INCONTROLLED ICONTROLLED ICONTROLLED ICONTROLLED ICONTROLLED ICONTROLLED INCONTROLLED INCONTROLLE INTONIC INCONTROLLED INCONTROLLED INCONTROL INCONTROL INCO	ystem				(	CONTROL DEVIC	CE ID NO	(S): CD-D	C1 throug	h CD-DC4, C	D-WESP	
SCRIBE USE: <pre>             CONTINUOUS USE             STAND BY/EMERGENCY             OTHER (DESCRIBE):</pre>	PERATING SCENARIO:	1 OF 1										
☐ CONTINUOUS USE		ROCESS HE	AT L	SPACE HEAT		E	ELECTRIC	CAL GENE	RATION			
A INTO DUCONTROLLED  VOOD_FIRED BURNER  VOOD_FIRED BURNER  VOOD_FIRED BURNER  VOOD_FIRED BURNER  CENT MOISTURE OF FUEL: 20 to 50%  UNCONTROLLED  CONTROLLED CONTROLLED WITH FLYASH REINJECTION  COAL_FIRED BURNER  PE OF BOILER  IF OTHER DESCRIBE: UNDERFEED STOKER UNCONTROLLED UNTS UNUTY FUEL USAGE (INCLUDE STARTUP/BACKUP FUELS) FUEL TYPE UNITS CAPACITY (UNITHER VERTION UNITHER VERTION VERT			s use 🛛 🗌	STAND BY/E	MERGENCY		OTHER (D	DESCRIBE	):			
X. FIRING RATE (MMBTUHOUR): 280.4       WOOD-FIRED BURNER         MOOD TYPE:       BARK       WOOD/BARK       WET WOOD       DRY WOOD       OTHER (DESCRIBE):         RCENT MOISTURE OF FUEL:       20 to 59%       CONTROLLED WITH FLYASH REINJECTION       CONTROLLED WITH ELYASH REINJECTION         ILNCONTROLLED       CONTROLLED WITH FLYASH REINJECTION       CONTROLLED WITH FLYASH REINJECTION       CONTROLLED WITH FLYASH REINJECTION         PEE OF BOILER       IF OTHER DESCRIBE:       STEAME       AIR       OTHER (DESCRIBE)         IVERVERIC       OVERFEED STOKER       INCONTROLLED       UNCONTROLLED       INCONTROLLED         IDRY BED       CONTROLLED       UNCONTROLLED       INCONTROLLED       INCONTROLLED         IDRY BED       CONTROLLED       INCONTROLLED       INSTITUTIONAL       RECIRCULATING         IDRY BED       OTHER FUEL-FIRED BURNER       INSTITUTIONAL       INSTITUTIONAL         IPE OF BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL <tr< td=""><td>HEATING MECHANISM:</td><td>Г</td><td>INDIRECT</td><td>1</td><td>DIRECT</td><td></td><td></td><td></td><td></td><td></td><td></td></tr<>	HEATING MECHANISM:	Г	INDIRECT	1	DIRECT							
WOOD FIRED BURNER         WOOD TYPE:       Bark.       WOOD/BARK       Wet WOOD       DTHER (DESCRIBE):         RCENT MOISTURE OF FUEL:       20 to 50%       CONTROLLED       CONTROLLED WITH FLYASH REINJECTION       CONTROLLED WIO REINJECTION         IEL FEED METHOD:       NA       IEAT TRANSFER MEDIA:       STEAM       AIR       OTHER (DESCRIBE)         COAL-FIRED BURNER       COAL-FIRED BURNER       OTHER (DESCRIBE)       STEAM       AIR       OTHER (DESCRIBE)         IVERZET       OVERRED STOKER       INCONTROLLED       UNCONTROLLED       CINCOLTON       CIRCULATING         IVET BED       UNCONTROLLED       UNCONTROLLED       INCONTROLLED       CIRCULATING         IVER ED       CONTROLLED       UNCONTROLLED       INCONTROLLED       CIRCULATING         IVER ED       CONTROLLED       UNCONTROLLED       INCONTROLLED       INCONTROLLED         IVER ED       CONTROLLED       UNCONTROLLED       INCONTROLLED       INCONTROLLED         IVER BED       CONTROLLED       UNCONTROLLED       INCONTROLLED       INCONTROLLED         IVER BED       CONTROLLED       INCONTROLLED       INCONTROLLED       INCONTROLLED         IVER BED       CONTROLLED       INCONTROLLED       INCONTROLLED       INCONTROLLED       INCONT	MAX FIRING RATE (MMB	TU/HOUR):	250.4									
WOOD TYPE:       BARK       WOOD MARK       WEI WOOD       DIVINUEDE         RCENT MOISTURE OF FUEL:       20 to 50%       CONTROLLED       CONTROLLED WITH FLYASH REINJECTION       CONTROLLED WO REINJECTION         I'LL PEED METHOD:       NA       I'LEAT TRANSFER MEDIA:       STEAM       AIR       OTHER (DESCRIBE)         PE OF BOILER       IF OTHER DESCRIBE:       UNCONTROLLED       UNCONTROLLED       IUNCONTROLLED       IUNCONTROLLED         I'LVERIZED       OVERFEED STOKER       UNCONTROLLED       IUNCONTROLLED       IUNCONTROLLED       ICICULATING         I'LVERIZED       CONTROLLED       ICONTROLLED       IUNCONTROLLED       INSTITUTIONAL         I'LY BED       CONTROLLED       IUNCONTROLLED       INSTITUTIONAL       RECIRCULATING         I'DE OF BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         PE OF FIRING:       TYPE(S) OF CONTROL(S) (F ANY):       MAXIMUM DESIGN       REQUESTED CAPACITY         FUEL TYPE       UNITS </td <td></td> <td></td> <td></td> <td>WOO</td> <td>DD-FIRED</td> <td>BURNER</td> <td></td> <td></td> <td></td> <td>0</td> <td></td>				WOO	DD-FIRED	BURNER				0		
RCENT MOISTURE OF FUEL:       20 to 50%       ✓       CONTROLLED       CONTROLLED WITH FLYASH REINJECTION       ✓       CONTROLLED WOR REINJECTION         FLI FEED METHOD: N/A       IF OTHER DESCRIPE:       STEAM       AR       OTHER (DESCRIPE:         PE OF BOILER       IF OTHER DESCRIPE:       UNCONTROLLED       UNCONTROLLED       UNCONTROLLED       COAL-FIRED BURNER         PE OF BOILER       IF OTHER DESCRIPE:       UNCONTROLLED       UNCONTROLLED       COAL-FIRED BURNER         PE OF BOILER       UNCONTROLLED       UNCONTROLLED       UNCONTROLLED       CORUNTROLLED         ID UNCONTROLLED       UNCONTROLLED       INCONTROLLED       RECIRCULATING         ID RUNCONTROLLED       ON ONTROLLED       INCONTROLLED       RECIRCULATING         ID RUNCONTROLLED       ONTROLLED       INCONTROLLED       INCONTROLLED         IP OF BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         (PEG) OF FUEL:       ITTUTY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         (PEG) OF FUEL:       ITTUTY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         (PEG) OF FUEL:       ITTUTY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         (PEG) OF FUEL:       ITTYPE(S) OF CONTTOLES) (IF ANY):       IN	WOOD TYPE:	BARK 🗹	WOOD/BARK	WET WO	DOD	DRY WOOD	)		OTHE	R (DESCRIB	E):	
UNCONTROLLED       CONTROLLED WITH FLYASH REINJECTION       ✓       CONTROLLED WITH RELASH REINJECTION         IEL FEED METHOD: N/A       IEAT TRANSFER MEDIA:       STEAM       AIR       OTHER (DESCRIBE)         IEL FEED METHOD: N/A       IEAT TRANSFER MEDIA:       STEAM       AIR       OTHER (DESCRIBE)         ILVERIZET       OVERFEED STOKER       IP OTHER DESCRIBE       INCONTROLLED       ICRULATING         ILVERIZET       OVERFEED STOKER       UNCONTROLLED       ICRULATING       ICRULATING         IDRY BED       CONTROLLED       ICROUTROLLED       ICRULATING       ICRULATING         IDRY BED       CONTROLLED       ICRULATING       IRECIRCULATING       ICRULATING         IDRY BED       CONTROLLED       ICRULATING       ICRULATING       ICRULATING         IDRY BED       CONTROLLED       INCONTROLLED       INCONTROLLED       INCONTROLLED         IDRY BED       CONTROLLED       INCONTROLLED       ICRULATING       ICRULATING         IDRY BED       CONTROLLED       INCONTROLLED       INCONTROLLED       ICRULATING         IDRY BED       IDNUTY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         IPE OF FIRING:       TYPE(S) OF CONTROL(S) (IF ANY):       INSTITUTIONAL       INSTITUTIONAL         IPE OF			to 50%									
IEL FEED METHOD: INA IEAT TRANSFER MEDIA: STEAM AIR OTHER (DESCRIBE) COAL-FIRED BURNER  PFE OF BOILER  IVENIZET OVERFEED STOKER UNCONTROLLED UNCONTROLLED UNCONTROLLED UNCONTROLLED UNCONTROLLED OF FLYASH REINJECTION OIL/GAS-FIRED BURNER  PFE OF BOILER: UTILITY INDUSTRIAL COMMERCIAL NO LOW NOX BURNER  PFE OF BOILER: UTILITY INDUSTRIAL COMMERCIAL INSTITUTIONAL PFE OF BOILER: UTILITY INDUSTRIAL INSTITUTIONAL PTYPE(S) OF CONTROLS) IF ANY): PFE OF BOILER: INSTITUTIONAL PTYPE(S) OF CONTROLS IF ANY): PFE OF FIRING: FUEL TYPE UNITS CAPACITY (UNIT/HR) UNITS CAPACITY (UNIT/HR) UNITATION (UNIT/HR) Bark/Wet Wood Nominal 4,200 BTU/Ib 0.011 ABARPLING PORTS, COMPLIANT WITH EPA METHOD 1 WILL BE INSTALLED ON THE STACKS VES NO			CONTROL	LED WITH FLY	ASH REINJE	CTION		-			IECTION	
COAL-FIRED BURNER         (PE OF BOILER       IF OTHER DESCRIBE:         IVERTEED STOKER       IP OTHER DESCRIBE:         UNDERFEED STOKER       IP OTHER DESCRIBE:         UNCONTROLLED       UNCONTROLLED         OULCONTROLLED       IP OTHER DESCRIBE:         UNCONTROLLED       IP OTHER DESCRIBE:         OUNCONTROLLED       IP OF OR FIGURE STOKER         OIL/GAS-FIRED BURNER         (PE OF BOILER:       OIL/GAS-FIRED BURNER         OIL/GAS-FIRED BURNER         (PE OF BOILER:       OIL/OR STIRLE       INSTITUTIONAL         (PE OF FIRING:       OTHER FUEL-FIRED BURNER         (PE OF FIRING:       INSTITUTIONAL         POLY         OTHER FUEL-FIRED BURNER         (PE OF FIRING:       INSTITUTIONAL         POLY         IP OF FIRING:       IP OTHER FUEL-FIRED BURNER         IP OF FIRING:       IP OTHER FUEL TYPE         MAXIMUM DESIGN       REQUESTED CAPACITY <td colspa<="" td=""><td></td><td></td><td>lander.</td><td></td><td></td><td></td><td>STEAM</td><td></td><td>OTHER (</td><td>DESCRIBE)</td><td></td></td>	<td></td> <td></td> <td>lander.</td> <td></td> <td></td> <td></td> <td>STEAM</td> <td></td> <td>OTHER (</td> <td>DESCRIBE)</td> <td></td>			lander.				STEAM		OTHER (	DESCRIBE)	
1. UVERZEC       OVERFEED STOKER       UNDERFEED STOKER       SPREADER STOKER       FLUIDIZED BED         IWET BED       UNCONTROLLED       UNCONTROLLED       CIRCULATING         IDRY BED       CONTROLLED       FLYASH REINJECTION       RECIRCULATING         PE OF BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         PE OF BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       NO LOW NOX BURNERS         PEO F BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       NO LOW NOX BURNER         PEO F BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       NO LOW NOX BURNER         PEO F BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       NO LOW NOX BURNER         PEO F BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         YPE OF FIRING:       TYPE(S) OF CONTROL(S) (F ANY):       TYPE(S) OF CONTROL(S) (F ANY):       INSTITUTIONAL         YPE OF FIRING:       TYPE(S) OF CONTROL(S) (F ANY):       REQUESTED CAPACITY       INMITTON (UNIT/HR)         Bark/Wet Wood       tons       29.8       SULFUR CONTENT       ASH CONTENT         FUEL TYPE       UNITS       SPECIFIC       SULFUR CONTENT       ASH CONTENT         FUEL TYPE       Bark/Wet W	OEL FEED METHOD. N			CO	AL-FIRED	BURNER						
1. UVERZEC       OVERFEED STOKER       UNDERFEED STOKER       SPREADER STOKER       FLUIDIZED BED         IWET BED       UNCONTROLLED       UNCONTROLLED       CIRCULATING         IDRY BED       CONTROLLED       FLYASH REINJECTION       RECIRCULATING         PE OF BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         PE OF BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       NO LOW NOX BURNERS         PEO F BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       NO LOW NOX BURNER         PEO F BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       NO LOW NOX BURNER         PEO F BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       NO LOW NOX BURNER         PEO F BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         YPE OF FIRING:       TYPE(S) OF CONTROL(S) (F ANY):       TYPE(S) OF CONTROL(S) (F ANY):       INSTITUTIONAL         YPE OF FIRING:       TYPE(S) OF CONTROL(S) (F ANY):       REQUESTED CAPACITY       INMITTON (UNIT/HR)         Bark/Wet Wood       tons       29.8       SULFUR CONTENT       ASH CONTENT         FUEL TYPE       UNITS       SPECIFIC       SULFUR CONTENT       ASH CONTENT         FUEL TYPE       Bark/Wet W			IF OTHER DES	CRIBE:								
AVENT BED       UNCONTROLLED       UNCONTROLLED       CRCULATING         IDRY BED       CONTROLLED       IDRY SED       CONTROLLED       IRECIRCULATING         IDRY BED       CONTROLLED       IND STALL       IND STALLETION       INSTITUTIONAL         PE OF BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         YPE OF FIRING:       TYPE(S) OF CONTROLLS) (IF ANY):       INSTITUTIONAL       YPE OF FIRING:         YPE OF FIRING:       TYPE(S) OF CONTROLS) (IF ANY):       REQUESTED CAPACITY         YPE OF FIRING:       TYPE(S) OF CONTROLS (IF ANY):       REQUESTED CAPACITY         YPE OF FIRING:       UNITS       CAPACITY (UNIT/HR)       LIMITATION (UNIT/HR)         FUEL TYPE       UNITS       CAPACITY (UNIT/HR)       LIMITATION (UNIT/HR)         Bark/Wet Wood       tons       29.8       SULFUR CONTENT       ASH CONTENT		D STOKER			S	PREADER STO	KER					
IDRY BED       CONTROLLED       CONTROLLED       FLYASH REINJECTION <pre>             RECIRCULATING</pre>												
Image: Indicate Stress Stre							N	L		CULATING		
Image: Constraint intermediate intermed				NO FLYASH REINJECTION								
PPE OF BOILER:       UILITY       INDEGENTALL       LOW NOX BURNERS       NO LOW NOX BURNER         PPE OF BOILER:       OTHER FUEL-FIRED BURNER       OTHER FUEL-FIRED BURNER       INSTITUTIONAL         PPE OF BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         PPE OF BOILER:       UTILITY       MAXIMUM DESIGN       REQUESTED CAPACITY         FUEL TYPE       UNITS       CAPACITY (UNIT/HR)       LIMITATION (UNIT/HR)         Bark/Wet Wood       tons       29.8       SULFUR CONTENT       ASH CONTENT         FUEL TYPE       BTU CONTENT       (% BY WEIGHT)       (% BY WEIGHT)       (% BY WEIGHT)         Bark/Wet Wood       Nominal 4,200 BTU/Ib </td <td></td> <td>1. 20 8172</td> <td></td> <td>OIL</td> <td>SAS-FIRE</td> <td>BURNER</td> <td></td> <td></td> <td>21.31-</td> <td></td> <td></td>		1. 20 8172		OIL	SAS-FIRE	BURNER			21.31-			
Image: Second		UTILI		DUSTRIAL		ERCIAL			TITUTION			
YPE(S) OF FUEL:	TYPE OF FIRING:	Terrorite and the second se	1.2					D NO	LOW NO	KBURNER		
VPE OF BOILER:       UTILITY       INDUSTRIAL       COMMERCIAL       INSTITUTIONAL         VPE OF FIRING:       TYPE(S) OF CONTROL(S) (IF ANY):       FUEL USAGE (INCLUDE STARTUP/BACKUP FUELS)       REQUESTED CAPACITY         FUEL TYPE       UNITS       CAPACITY (UNIT/HR)       LIMITATION (UNIT/HR)         Bark/Wet Wood       tons       29.8				OTHER	FUEL-FIR	ED BURNER					And the second second	
YPE OF BOILER:       UTILITY       INDUSTRIAL       COMMETCAL       EL         YPE OF FIRING:       TYPE(S) OF CONTROL(S) (IF ANY):       FUEL USAGE (INCLUDE STARTUP/BACKUP FUELS)         FUEL TYPE       UNITS       CAPACITY (UNIT/HR)       LIMITATION (UNIT/HR)         Bark/Wet Wood       tons       29.8	TYPE(S) OF FUEL:							<b>—</b>				
FUEL USAGE (INCLUDE STARTUP/BACKUP FUELS)         MAXIMUM DESIGN       REQUESTED CAPACITY         FUEL TYPE       UNITS       CAPACITY (UNIT/HR)       LIMITATION (UNIT/HR)         Bark/Wet Wood       tons       29.8	TYPE OF BOILER:					IERCIAL			IIIUIION	IAL		
MAXIMUM DESIGN       REQUESTED CAPACITY         FUEL TYPE       UNITS       CAPACITY (UNIT/HR)       LIMITATION (UNIT/HR)         Bark/Wet Wood       tons       29.8	TYPE OF FIRING:		TYPE(S)	OF CONTROL(S	) (IF ANY):	DTHD/DACH				1. 1. C. A. S.		
FUEL TYPE       UNITS       CAPACITY (UNIT/HR)       LIMITATION (UNIT/HR)         Bark/Wet Wood       tons       29.8			FUEL	USAGE (INC	LUDESIA	ARTUP/BACK	UP FU	ELO	RE	OUESTED C	APACITY	
FUEL TYPE       UNITS       CAPACITY (ONTMITY)         Bark/Wet Wood       tons       29.8         FUEL CHARACTERISTICS (COMPLETE ALL THAT ARE APPLICABLE)         FUEL TYPE       SPECIFIC       SULFUR CONTENT       ASH CONTENT         FUEL TYPE       BTU CONTENT       (% BY WEIGHT)       (% BY WEIGHT)         Bark/Wet Wood       Nominal 4,200 BTU/lb       0.011       0.011         Bark/Wet Wood       Nominal 4,200 BTU/lb       0.011       0.011         GAMPLING PORTS, COMPLIANT WITH EPA METHOD 1 WILL BE INSTALLED ON THE STACKS       YES       NO												
Bark/Wet Wood       LONS         Bark/Wet Wood       FUEL CHARACTERISTICS (COMPLETE ALL THAT ARE APPLICABLE)         FUEL TYPE       SPECIFIC       SULFUR CONTENT       ASH CONTENT         FUEL TYPE       BTU CONTENT       (% BY WEIGHT)       (% BY WEIGHT)         Bark/Wet Wood       Nominal 4,200 BTU/Ib       0.011       Image: Complex C	FUEL TYPE		UNITS		CAPAC							
SPECIFIC       SULFUR CONTENT       ASH CONTENT         FUEL TYPE       BTU CONTENT       (% BY WEIGHT)       (% BY WEIGHT)         Bark/Wet Wood       Nominal 4,200 BTU/Ib       0.011       Image: Comparison of the state of th	Bark/Wet Wood		tons			29.8						
SPECIFIC       SULFUR CONTENT       ASH CONTENT         FUEL TYPE       BTU CONTENT       (% BY WEIGHT)       (% BY WEIGHT)         Bark/Wet Wood       Nominal 4,200 BTU/Ib       0.011       Image: Comparison of the state of th												
SPECIFIC       SULFUR CONTENT       ASH CONTENT         FUEL TYPE       BTU CONTENT       (% BY WEIGHT)       (% BY WEIGHT)         Bark/Wet Wood       Nominal 4,200 BTU/Ib       0.011       Image: Comparison of the state of th					(OOMD) E			DDI ICA	BIE)	1000		
FUEL TYPE       BTU CONTENT       (% BY WEIGHT)       (% BY WEIGHT)         Bark/Wet Wood       Nominal 4,200 BTU/Ib       0.011		FL	JEL CHARAC	TERISTICS			SULEU	R CONTEN	IT I	ASH CO	ONTENT	
Bark/Wet Wood       Nominal 4,200 BTU/Ib       0.011         Bark/Wet Wood       Image: Complex of the state of the										(% BY V	VEIGHT)	
Bark/Wet Wood Norman 4,200 STONE STALLED ON THE STACKS VESS NO				_								
CAMPLING PORTS, COMPLIANT WITH EPA METHOD 1 WILL BE INSTALLED ON THE STACKS   I HES L. HES L. HES L. HES L. HES	Bark	/Wet Wood		No	ominai 4,200			0.011				
CAMPLING PORTS, COMPLIANT WITH EPA METHOD 1 WILL BE INSTALLED ON THE STACKS   I HES L. HES L. HES L. HES L. HES									-			
COMMENTS:						THE STACKS		YES		N	0	
		VIPLIANT WI	TH EPA METHO	U 1 WILL BE IN	STALLED UN	THE STACKS	النف		Annual Annual			
Attach Additional Sheets As Necessary	COMMENTS:											
Attach Additional Sheets As Necessary												
Attach Additional Sheets As Necessary												
				Attach Addi	tional Sh	eets As Nec	essary					

1

FORM C2 CONTROL DEVICE (Electrostatic Precipitator)

	1166 P. 6 10 1. 1. 1	an of Air Quality . Ann	lication for Air Permit to Construct/	Operate	C2			
EVISED 09/22/16		on of Air Quality - App	CONTROLS EMISSIONS FROM WHICH	EMISSION SOURCE ID NO(S)	ES-DRYER			
ONTROL DEVICE ID NO: 0	CD-WESP		POSITION IN SERIES OF CONTRO	L NO. 2 OF 2	UNITS			
MISSION POINT (STACK)	D NO(S): EP-1							
	al Sales, Inc.		MODEL NO.					
	ERATING SCENARIO:		P.E. SEAL REQUIRED (PER 2Q .01	12)2 YES	NO			
OPERATING SCENA		OF1						
ESCRIBE CONTROL SYST	TEM:	t thursdaal avalant	es which then route to the WESP thr	ough a common duct for a	additional PM,			
missions from the Dryer a	re initially controlled by	four identical cyclone	es which then folde to the files an					
netallic HAP, and HCL rem			GAS DISTRIBUTION GRIDS:	VES	NO			
QUIPMENT SPECIFICATIO	ONS			TWO-STA	GE			
	WET	DRY	SINGLE-STAGE	ECTOR PLATES PER FIEL				
OTAL COLLECTION PLAT	E AREA (FT <sup>2</sup> ): <b>29,904</b>		NO. FIELDS 2 NO. COLL SPACING BETWEEN COLLECTOR	DIATES (INCHES): 12" h	extube			
OLLECTOR PLATE SIZE (	FT): LENGTH:	WIDTH:	SPACING BETWEEN COLLECTOR	A Poico				
OTAL DISCHARGE ELECT	RODE LENGTH (FT): 1	<b>)</b> "-0"	GAS VISCOSITY (POISE): 2.054E-	DODE DADDERS' none				
UMBER OF DISCHARGE	ELECTRODES: 567		NUMBER OF COLLECTING ELECT	(ET/REC): 0.234				
AXIMUM INLET AIR FLOV	V RATE (ACFM): 117,00	00	PARTICLE MIGRATION VELOCITY	(F1/SEC). 0.234				
MINIMUM GAS TREATMEN	IT TIME (SEC): 2.3		BULK PARTICLE DENSITY (LB/FT	): 45 ID/GI. FL.				
IELD STRENGTH (VOLTS	) CHARGING: 83kVA	COLLECTING: N/A	CORONA POWER (WATTS/1000 C	FIVI): 4000				
ELECTRICAL USAGE (KW/	HOUR): 141.5			ATHER				
CLEANING PROCEDURES	: RAPPING			OTHER	NO			
OPERATING PARAM	ETERS PRESSURE	E DROP (IN. H20): MI						
RESISTIVITY OF POLLUTA	NT (OHM-CM): N/A		GAS CONDITIONIN	O TYPE OF AGENT (IF T	20).			
NLET GAS TEMPERATURE (°F): 240 °F nominal			OUTLET GAS TEMPERATURE (°F): 180 °F Nominal					
VOLUME OF GAS HANDLE	D (ACEM) 117.000		INLET MOISTURE PERCENT:		)			
POWER REQUIREM	IENTS IS AN ENE	RGY MANAGEMENT S		NO EACH RECTIFIER Ky	Avo/Peak Mal			
FIELD NO.	NO. OF SETS	CHARGING	EACH TRANSFORMER (KVA)					
1	1		118	83 / 12				
2	1		118	83/12	.00			
POLLUTANT(S) COLLECT	ED.	PM / PM10 / PM2.5						
BEFORE CONTROL EMIS	SION RATE (LB/HR):	150						
CAPTURE EFFICIENCY:	510111112 ()	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	%	%	%			
		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	%	%	%			
CONTROL DEVICE EFFIC	ENGT.		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	0/	%			
	ALL FEEICIENCY:	%	76	%				
CORRESPONDING OVER		%	70	%				
FEEICIENCY DETERMINA	TION CODE:			%	_			
EFFICIENCY DETERMINA TOTAL AFTER CONTROL	TION CODE: EMISSION RATE (LB/HF	R) See calculations in A	Appendix C					
EFFICIENCY DETERMINA TOTAL AFTER CONTROL	TION CODE: EMISSION RATE (LB/HF TICLE SIZE DISTRIBUT	R) See calculations in A	Appendix C		—			
EFFICIENCY DETERMINA TOTAL AFTER CONTROL	TION CODE: EMISSION RATE (LB/HF RTICLE SIZE DISTRIBUT WEIGHT %	R) See calculations in A ION CUMULATIVE	Appendix C					
EFFICIENCY DETERMINA TOTAL AFTER CONTROL PAR SIZE (MICRONS)	TION CODE: EMISSION RATE (LB/HF TICLE SIZE DISTRIBUT	R) See calculations in A	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal.	RES:				
EFFICIENCY DETERMINA TOTAL AFTER CONTROL PAR SIZE	TION CODE: EMISSION RATE (LB/HF RTICLE SIZE DISTRIBUT WEIGHT %	R) See calculations in A ION CUMULATIVE	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal.	RES:				
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10	TION CODE: EMISSION RATE (LB/HF RTICLE SIZE DISTRIBUT WEIGHT %	R) See calculations in A ION CUMULATIVE	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal.	RES:				
EFFICIENCY DETERMINA TOTAL AFTER CONTROL PAR SIZE (MICRONS) 0-1	TION CODE: EMISSION RATE (LB/HF RTICLE SIZE DISTRIBUT WEIGHT %	R) See calculations in A ION CUMULATIVE	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal.	RES:	TO THE CONTR			
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10	TION CODE: EMISSION RATE (LB/HF RTICLE SIZE DISTRIBUT WEIGHT %	R) See calculations in A ION CUMULATIVE	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal. DESCRIBE ANY AUXILIARY MAT	RES:	TO THE CONTR			
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10 10-25	TION CODE: EMISSION RATE (LB/HF RTICLE SIZE DISTRIBUT WEIGHT %	R) See calculations in A ION CUMULATIVE	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal.	RES:	TO THE CONTR			
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10 10-25 25-50	ITION CODE: EMISSION RATE (LB/HF TICLE SIZE DISTRIBUT WEIGHT % OF TOTAL	R) See calculations in A ION CUMULATIVE %	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal. DESCRIBE ANY AUXILIARY MAT	RES:	TO THE CONTR			
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100 >100	ITION CODE: EMISSION RATE (LB/HF TICLE SIZE DISTRIBUT WEIGHT % OF TOTAL	R) See calculations in A ION CUMULATIVE %	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal. DESCRIBE ANY AUXILIARY MAT SYSTEM	RES:	TO THE CONTR			
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100 >100 DESCRIBE ANY MONITO	ITION CODE: EMISSION RATE (LB/HF TICLE SIZE DISTRIBUT WEIGHT % OF TOTAL	R) See calculations in A ION CUMULATIVE %	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal. DESCRIBE ANY AUXILIARY MAT SYSTEM	RES:	TO THE CONTR			
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100 >100	ITION CODE: EMISSION RATE (LB/HF TICLE SIZE DISTRIBUT WEIGHT % OF TOTAL	R) See calculations in A ION CUMULATIVE %	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal. DESCRIBE ANY AUXILIARY MAT SYSTEM	RES:				
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100 >100 DESCRIBE ANY MONITO	ITION CODE: EMISSION RATE (LB/HF TICLE SIZE DISTRIBUT WEIGHT % OF TOTAL	R) See calculations in A ION CUMULATIVE %	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal. DESCRIBE ANY AUXILIARY MAT SYSTEM	RES:	TO THE CONTR			
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100 >100 DESCRIBE ANY MONITO COMMENTS:	ITION CODE: EMISSION RATE (LB/HF TICLE SIZE DISTRIBUT WEIGHT % OF TOTAL	R) See calculations in A ION CUMULATIVE % AL = 100 S, OR TEST PORTS A	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal. DESCRIBE ANY AUXILIARY MAT SYSTEM S ATTACHMENTS: PLC	CEDURES:				
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100 >100 DESCRIBE ANY MONITO COMMENTS:	ITION CODE: EMISSION RATE (LB/HF TICLE SIZE DISTRIBUT WEIGHT % OF TOTAL OF TOTAL TOT RING DEVICES, GAUGE	R) See calculations in A ION CUMULATIVE % AL = 100 S, OR TEST PORTS A:	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal. DESCRIBE ANY AUXILIARY MAT SYSTEM S ATTACHMENTS: PLC	RES: CEDURES: TERIALS INTRODUCED IN The plate spacing and wire	e spacing			
EFFICIENCY DETERMINA TOTAL AFTER CONTROL SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100 >100 DESCRIBE ANY MONITO COMMENTS:	ITION CODE: EMISSION RATE (LB/HF TICLE SIZE DISTRIBUT WEIGHT % OF TOTAL OF TOTAL TOT RING DEVICES, GAUGE	R) See calculations in A ION CUMULATIVE % AL = 100 S, OR TEST PORTS A VIEW OF THE ESP WIT AND THE RELATION	Appendix C DESCRIBE STARTUP PROCEDU Refer to previous submittal. DESCRIBE MAINTENANCE PROC Refer to previous submittal. DESCRIBE ANY AUXILIARY MAT SYSTEM S ATTACHMENTS: PLC	RES: CEDURES: TERIALS INTRODUCED IN The plate spacing and wire	e spacing			

### FORM C4

# CONTROL DEVICE (CYCLONE, MULTICYCLONE, OR OTHER MECHANICAL) NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate

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	OL DEVICE (C NCDEQ/Divisi	on of Air Quali	ity - Appl	ication for Air Pe	rmit to	Construct	TOber	ale		
ONTROL DEVICE ID NO: CD-D	Cf through CD-DC		AISSIONS	FROM WHICH E	MISSIC	N SOURC	EIDN	NO(S):	ES-D	RYER
ONTROL DEVICE ID NO: CD-D	C1 through CD-DC-C	POSITION IN S	ERIES O	F CONTROLS		NO. 1	(	OF 2		UNITS
MISSION POINT (STACK) ID NO	SCENARIO:									
	DF 1	F	P.E. SEAL	REQUIRED (PEF	R 2Q .0'	112)?		YES		V NO
ESCRIBE CONTROL SYSTEM: our identical simple cyclon ach of the cyclones are cor yclone.	es are equipped to nbined into a com	) the discharg mon duct and	ge of th d are ro	e rotary dryer s uted to the WES	system SP. Th	to captu ne paramo	re bu eters	ik PM prese	emis nted	sions. Emissions fron here are per each
POLLUTANT(S) COLLECTED:		F	PM	PM10		PM <sub>2.5</sub>	3			_
BEFORE CONTROL EMISSION F	RATE (LB/HR):	_			<b>.</b> .		3			÷.
CAPTURE EFFICIENCY:		-	98.5	% <u>98.5</u>	%	98.5	%		_	%
CONTROL DEVICE EFFICIENCY	(:	_		%	%		%			_%
CORRESPONDING OVERALL E		_		%	_%		%		_	%
EFFICIENCY DETERMINATION		_		_	-		. 8			-
TOTAL AFTER CONTROL EMIS		-								-
PRESSURE DROP (IN. H <sub>2</sub> 0):	MIN	6.0"M	AX							
INLET TEMPERATURE (°F):	MIN	MAX Nomin	al 400	OUTLET TEMPI	ERATU	RE (°F):	_	MIN		MAX Nominal 400
INLET AIR FLOW RATE (ACFM)	the second se			BULK PARTICL	E DENS	SITY (LB/F1	Γ <sup>3</sup> ): <b>3</b> .	43E-05		
POLLUTANT LOADING RATE (	CR/FT <sup>3</sup> ): 0.24							_		
SETTLING CHAMBER		(	CYCLON		1.4		10		_	ULTICYCLONE
LENGTH (INCHES):	INLET VELOCITY (F	T/SEC): 95					NO.	TUBES	_	
WIDTH (INCHES):	DIMENSIONS (INC	CHES) See inst	ructions	IF WET SPF	RAYUT	ILIZED		METER		
HEIGHT (INCHES):	H:	Dd:		LIQUID USED:			-	-	SPIR	ATION SYSTEM?
VELOCITY (FT/SEC.):	W:	Lb: 156"		FLOW RATE (C			_	YES	_	J NO
NO. TRAYS:	De: 79"	Lc: 312"		MAKE UP RATE	E (GPM	):		JVERS'	?	NO NO
NO. BAFFLES:	D: 132"	S:					1	YES		NO NO
	TYPE OF CYCLONE	CONVEN	TIONAL	HIGH EF	FICIEN	ICY				DIOTOIDUTION
DESCRIBE MAINTENANCE PR	OCEDURES: Period	ic inspection	of mec	hanical integrity	у			_		DISTRIBUTION CUMULATIVE
during plant outages as sp	ecified by manufa	cturer.				SIZE ICRONS)		VEIGHT		%
			or will b	o solit and		0-1	1			Unknown
DESCRIBE INCOMING AIR STF distributed through a set o	REAM: The flue gas	fore entering	the WF	SP. After the		1-10	-			
distributed through a set o cyclones, the gas stream v	tour cyclones be	to a single d	uct and	directed to the	-	10-25	1			
	WILDE COMDINES IN	ito a onigio a				25-50	+			
WESP inlet point.					-	50-100	+			
					-	>100	+			
					-	-100				TOTAL = 100
DESCRIBE ANY MONITORING None							MICO			E(S)
ON A SEPARATE PAGE, ATT	ACH A DIAGRAM OF	Attach A	ddition	al Sheets As	Nec	essary	111122	NON SC		

### FORM B SUIDED FOR ALL SOURCES)

	ISSION SOURCE NCDEQ/Division of		nolication for	Air Permit to	Constructio	perate		В
EVISED 09/22/16	NUDEQUDIVISION	Fit attacting - Fit	10	TALCOLON SC	LIRCE ID NO	• ES-HM-1 INP	ough 7	
MISSION SOURCE DESCRIPTION:			17	CONTROL DE	VICE ID NO(	SI: CD-HM-CY	C-1 through	7
even (7) Hammermills	05			MISSION PC	INT (STACK)	ID NO(S): EP	-2 through 5	
PERATING SCENARIO 1	OF 1				1111	here here here here here here here here		
ESCRIBE IN DETAILTHE EMISSION S	OURCE PROCESS (ATTAC	H FLOW DIAG	reani). 	normille				
ESCRIBE IN DETAILTHE EMISSION S ried materials are reduced to the appl	ropriate size needed for pe	letization using	g seven nami	nernins.				
							EC).	
TYPE OF EMISSIO	ON SOURCE (CHECK AND	COMPLETE AP	PROPRIATE	FORM B1-B9	ON THE FOL	LOWING PAG	atings/inks (F	form B7)
Coal,wood,oil, gas, other burner (Form	n B1)	I VVOODWOFKI					aungannica (i	0111 2.7
Int.combustion engine/generator (For	m B2)	Coating/fini	ishing/printing	(Form B5)		tion (Form B8)		
Liquid storage tanks (Form B3)		Storage sile	os/bins (Form	B6)	J Other (F	orm B9)		
TADT CONSTRUCTION DATE:			DATE MANUF	ACTURED:			AY/WK _52_	WK/YR
MANUFACTURER / MODEL NO .: West	Salem Machinery Model #	1460S	EXPECTED C	P. SCHEDUL	E: 24 HR/		antion 112/	
THE REAL PRESENCE AND LEAT TOO	NSPS (SUBPARTS				AP (SUBPAR	Subpart B, S	Bection 112	//
S THIS SOURCE SUBJECT TO? PERCENTAGE ANNUAL THROUGHPU		AD BAAV 960/	JUN-AUG 2	5% SEP-NC	V 25%	TIPCE		
CRIT	T (%): DEC-FEB 25% M ERIA AIR POLLUTAN	TEMISSION		a final and a Dearth share the second	K THIS SC	ORCE	EMISSIONS	
or white		SOURCE OF	EXPECTE	) ACTUAL		FOILINE	EN155IUNS	DOLC (LIMITE)
		EMISSION	(AFTER CONTR			TROLS / LIMITS)		tons/yr
		FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
		See Emission	Calculations	in Appendix	C			
PARTICULATE MATTER (PM)		1000						
PARTICULATE MATTER<10 MICRONS (F	(DNA )							
PARTICULATE MATTER<2.5 MICRONS (	P1VI <sub>2.5</sub> )							
SULFUR DIOXIDE (SO2)								
NITROGEN OXIDES (NOx)								
CARBON MONOXIDE (CO)	100							
VOLATILE ORGANIC COMPOUNDS (V			-					
LEAD								
OTHER	RDOUS AIR POLLUT	ANT EMISSI	ONS INFOR	RMATION	OR THIS	SOURCE		
HAZAI	RDOUS AIR FOLLOW	SOURCE OF	EXPECTE	D ACTUAL			EMISSIONS	
		EMISSION		ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)		TROLS / LIMITS
	CAS NO.		lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
HAZARDOUS AIR POLLUTANT	CAS NO.	See Emission	n Calculation		(C			-
		EMISSION	SINFORM	TION FOR	THIS SO	URCE		
10	TAIL AIR POLLUTAN	SOURCE	FYPE	CTED ACTUA	LEMISSIONS	AFTER CON	ROLS / LIMI	TATIONS
		OF				o/day		lb/yr
TOXIC AIR POLLUTANT	CAS NO	. EMISSION		o/hr		//duj		
		See Emissio	on Calculation	is in Appendi				
					1		-	
Attachments: (1) emissions calculations and								

Attach Additional Sheets As Necessary

### FORM B9 EMISSION SOURCE (OTHER)

	il. A Sullantion f	- V	B9
VISED 09/22/16 NCDEQ/Division of Air Quali	ity - Application f	or Air Permit to Construct/Ope EMISSION SOURCE ID NO: E	S-HM-1 thru 7
ISSION SOURCE DESCRIPTION:	-	CONTROL DEVICE ID NO(S):	CD-HM-CYC-1 through 7
ven (7) Hammermills		CONTROL DEVICE ID HO(0)	-HM-BF1 through 7
		EMISSION POINT (STACK) ID	
PERATING SCENARIO:1 OF1		EMISSION POINT (STACK) ID	
ESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAC ied materials are reduced to the appropriate size needed	d for pelletization	using seven hammermills.	
		MAX. DESIGN	REQUESTED CAPACITY
MATERIALS ENTERING PROCESS - CONTINUOUS	PROCESS	CAPACITY (UNIT/HR)	LIMITATION(UNIT/HR)
TYPE	UNITS		Elimitette
ried Wood	ODT	71.71	
MATERIALS ENTERING PROCESS - BATCH OP TYPE	PERATION UNITS	MAX. DESIGN CAPACITY (UNIT/BATCH)	REQUESTED CAPACITY LIMITATION (UNIT/BATCH)
MAXIMUM DESIGN (BATCHES / HOUR):			
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES	/YR):	
	TOTAL MA	XIMUM FIRING RATE (MILLION	NBIU/HR): N/A
MAX CAPACITY HOURLY FUEL USE: N/A	REQUEST	ED CAPACITY ANNUAL FUEL	USE: N/A
REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED: <b>N/A</b> MAX. CAPACITY HOURLY FUEL USE: <b>N/A</b> COMMENTS:	(BATCHES TOTAL MA REQUEST	/YR): XIMUM FIRING RATE (MILLI ED CAPACITY ANNUAL FUE	

Attach Additional Sheets as Necessary

## FORM CA

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				94 21 - 21/2				СНАМ		
CONTR	OL DEVICE (	CYCLONE, MU		JUNE	1, UI	< UTHI	ct/Opera	te		C4
EVISED 09/22/16	NCDEQ/Div	ision of Air Quality - A	pplication		MICC			)(S): ES-I	HM-1 through 7	
NTROL DEVICE ID NO: CD	-HM-CYC-1 through	CONTROLS EMISSIC	INS FROM		11133	NO.	1 0	F	2 UNITS	
ISSION POINT (STACK) ID NO(	S): EP-2 through 5	POSITION IN SERIES	OFCON	ROLS	_	110.				
	IG SCENARIO:	PE SE	AL REQU	IRED (PE	R 2Q .	0112)?		ES	V NO	
	OF 1	uipped for each hamn	nermill to	capture b	ulk PM	l emission	ıs. The e	missions	from the cyclone a	ire ther
uted to a dedicated bagnite	r per cyclone and na									
OLLUTANT(S) COLLECTED:		PM		PM10	_	PM <sub>2.5</sub>				
EFORE CONTROL EMISSION		See ca	lculations	in Apper	dix C		_		_	
APTURE EFFICIENCY:		98	%	98	_%	98	_%		%	
ONTROL DEVICE EFFICIEN	CY:		%		_%		_%		%	
ORRESPONDING OVERALL			%		%		_% _	_	%	
FFICIENCY DETERMINATION					_		-			
OTAL AFTER CONTROL EM		): <u>See c</u>	alculation	s in Appe	ndix C		-			
RESSURE DROP (IN. H <sub>2</sub> 0):	MIN	6.0"MAX			_			A 41A 1	MAX Ambient	_
NLET TEMPERATURE (°F):	MIN	MAX Ambient	OUTL	ET TEMP	ERAT	URE ("F):	300	MIN	WAX Amplem	
NLET AIR FLOW RATE (ACF	M): 15,000 each cyc	line	BULK	PARTICL	E DEN	ISITY (LB/	FT°): <b>1.4</b>	3E-03		
POLLUTANT LOADING RATE	(GR/FT <sup>3</sup> ): 10 gr/cf i	nlet					11.00.000	M	ULTICYCLONE	
SETTLING CHAMBER		CYCLO	11511		1 pr	CTANGLE		UBES:		
ENGTH (INCHES):		(FT/SEC): 114.65		WET SPI			_	ETER OF	TUBES:	
VIDTH (INCHES):		NCHES) See instruction		ID USED:	VALO	TIEREE			RATION SYSTEM?	
HEIGHT (INCHES):	H: 60	Dd: 20		N RATE (	SPM)				NO	
/ELOCITY (FT/SEC.):	W: 32.25	Lb: 60		E UP RAT		(N):	LOUN	ERS?		
NO. TRAYS:	De: 45	Lc: 120 S: 64.75	INICILI					YES	NO NO	
NO. BAFFLES:	D: 96	NE CONVENTION		HIGH E	FICIE	NCY		OTHER		
DESCRIBE MAINTENANCE P	TYPE OF CYCLO			- HIGH - E			PARTIC	LE SIZE	DISTRIBUTION	
DESCRIBE MAINTENANCE P Periodic inspection of mech manufacturer.	anical integrity durin	g plant outages as sp	ecified by		(	SIZE MICRONS)		IGHT % TOTAL	CUMULAT %	TIVE
SERVICE INCOMING AIR ST	TREAM					0-1			Unknown	
	whithe cuclone under	r negative pressure. T	he cyclon	ie		1-10				
1 the material from	the air stream and th	e air dischardes to all	associate	su bay mu	er	10-25				
prior to being discharged to	the atmosphere via	a discharge stack con	imon to a	a mers ir		25-50				
this area.						50-100				
						>100				
									TOTAL = 100	
DESCRIBE ANY MONITORIN	IG DEVICES, GAUGE	S, TEST PORTS, ETC								
None										
ON A SEPARATE PAGE, AT	TACH A DIAGRAM OF	THE RELATIONSHIP	OF THE C	ONTROL	DEVI	CETOITS	EMISSIC	N SOURC	CE(S):	_
	The state of a sub-state of state of state	Attach Additio		1 .						

### FORM C1 CONTROL DEVICE (FABRIC FILTER)

	NCDEQ/Division of Air Qu	ality - Application for		onstruct/Oper	ate		C1
REVISED 09/22/16		EMISSIONS FROM W	ICH EMISSION	SOURCE ID I	10(S): ES-I	HM-1 throug	h 7
CONTROL DEVICE ID NO: CD-HM-BF		SERIES OF CONTROL	LS	N	0. 20	F 2 UN	ITS
EMISSION POINT (STACK) ID NO(S): OPERATING S		BERGEO GI BUILLI					
and many many second and and and and and and and and and a	_1	P.E. SEAL REQ	UIRED (PER 2q	.0112)?	] YES	1	NO
DESCRIBE CONTROL SYSTEM: Seven (7) bagfilters are utilized for er nammermill bagfilter stacks. ES-HM	mission control on the seven	hammermill cyclones ince ES-HM8 was not	s. Two bagfilter installed. All 4		nmon stack entical.	., so there an	e 4
POLLUTANTS COLLECTED:		PM	PM-10	PM-2.5			
BEFORE CONTROL EMISSION RATE	: (LB/HR):	See calculation	is in Appendix				
CAPTURE EFFICIENCY:		<b>~99.9</b> %	~99.9	% ~99.9		%	
CONTROL DEVICE EFFICIENCY:		%		%	%	%	
CORRESPONDING OVERALL EFFICI	IENCY:	%		%	%	%	1
EFFICIENCY DETERMINATION COD	E:						
TOTAL AFTER CONTROL EMISSION			in Appendix	с			
PRESSURE DROP (IN H <sub>2</sub> 0): MIN:	MAX: 6" GAUGE	YES			20		
BULK PARTICLE DENSITY (LB/FT <sup>3</sup> ):	1.43E-05		PERATURE (°F)		00		
POLLUTANT LOADING RATE: 0.1 gr/cf in			ATING TEMP (°F				
INLET AIR FLOW RATE (ACFM): 15,	NO. OF BAGS PER COMP			LENGTH OF	BAG (IN.):	120	
NO. OF COMPARTMENTS: 1	FILTER SURFACE AREA P			DIAMETER C			
NO. OF CARTRIDGES:		OTH RATIO: 6.90		V			
TOTAL FILTER SURFACE AREA (FT DRAFT TYPE: INDUCED/NE			FILTER MAT	ERIAL:	WOVE		ELTED
DRAFT TYPE: INDUCED/NE				P/	ARTICLE SI	IZE DISTRIB	
	SONIC			SIZE	WE.	IGHT %	CUMULATIVE %
		G COLLAPSE		(MICRONS	i) OF	OF TOTAL	
REVERSE FLOW		COLLAPSE		0-1		Unkn	own
MECHANICAL/SHAKER		00227.02		1-10			
DESCRIBE INCOMING AIR STREAM	٨.			10-25			
The air stream contains wood dust	particles. Larger particles a	re removed by the up	stream	25-50			
cyclone.				50-100			
				>100			
						TOTAL	= 100
ON A SEPARATE PAGE, ATTACH A	DIAGRAM SHOWING THE R	ELATIONSHIP OF THE	CONTROL DE		MISSION S	OURCE(S):	
COMMENTS:							
	Attach A	dditional Sheets	As Necess	sary			

## FORM B

	NUMBER FOR ALL SOURCES)
SPECIFIC EMISSION SOURCE INFORMATIC	IN (REQUIRED I ON ALL OCONOLO)

SPE	CIFIC ENISSION S			nnlication for	Air Permit to	Construct/Op	erate		В		
EVISED 09/22/16					EMISSION SOURCE ID NO: ES-CLR1 through 6						
EMISSION SOURCE DESCRIPTION:				CONTROL DEVICE ID NO(S) CD-CLR-1 through 6							
ellet Coolers		EMISSION POINT (STACK) ID NO(S): EP-7 through 12									
OPERATING SCENARIO	ERATING SCENARIO 1 OF 1 SCRIBE IN DETAILTHE EMISSION SOURCE PROCESS (ATTACH FL				LIVINGOIOITTO						
	MISSION SOURCE PROCES	S (ATTACH F	LOW DIAGRA	wij.	ntablo storade	temperature.					
Six (6) Pellet Coolers follow	the pellet presses to cool th	ne newly form	ied pellets dow	in to an acce	plane storage	Comportation					
	PE OF EMISSION SOURCE (			DOODDIATE	FORM B1-B9	ON THE FOLL	OWING PAGES	5):			
TYF	PE OF EMISSION SOURCE (		COMPLETE AF	FROFTIALE		Manuf. d	of chemicals/coa	tings/inks (Fo	orm B7)		
Coal,wood,oil, gas, other I	Cooting/fin	Woodworking (Form B4) La Manuf. of chemicals/coatings/inks (Form Coating/finishing/printing (Form B5) Incineration (Form B8)									
Int.combustion engine/ger	nerator (Form B2)		Coaung/iin	Storage silos/bins (Form B6)							
Liquid storage tanks (Forr	n B3)		Storage sin	DATE MANU	FACTURED:						
START CONSTRUCTION DA	ATE:			EXPECTED	P SCHEDULE	24 HR/D	AY 7 DAY		WK/YR		
	NO.: Bliss 14-393-6A Coole		1-		✓ NESHA	P (SUBPART	Subpart B, S	ection 112(g)			
IS THIS SOURCE SUBJECT		and MAD	144V 9E0/	IN-AUG 25%	SEP-NOV	25%					
PERCENTAGE ANNUAL TH	TO?NSPS ( ROUGHPUT (%): DEC-FEB CRITERIA AIR P		TEMISSION	IS INFORM	ATION FOR	R THIS SOU	JRCE		- Contraction of		
	CRITERIA AIR P	official and the second	SOURCE OF		D ACTUAL		POTENTIAL	EMISSIONS			
			EMISSION		ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)		
			FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr		
AIR POLLUTANT EMITTED			See Emission		in Appendix (	0	· · · · · · · · · · · · · · · · · · ·				
PARTICULATE MATTER (PM	VI)		dee Enilosion								
PARTICULATE MATTER<10	MICRONS (PM10)										
PARTICULATE MATTER<2.5	MICRONS (PM2.5)										
SULFUR DIOXIDE (SO2)											
NITROGEN OXIDES (NOx)											
CARBON MONOXIDE (CO) VOLATILE ORGANIC COMF											
	001003 (000)		-								
LEAD							NUDOF				
OTHER	HAZARDOUS AIR	POLLUTA	NT EMISSI	ONS INFOR	RMATION F	OR THIS S	OURCE				
	THE THE COLUMN		SOURCE OF	EXPECT	EDACIUAL						
			EMISSION	(AFTER CONTROLS / LIMITS)			TROLS / LIMITS)	(AFTER CON	tons/yr		
HAZARDOUS AIR POLLUT.	ANT	CAS NO.		lb/hr	tons/yr	ib/hr	tons/yr	io/m	tons/yi		
HAZARDOUS AIR POLLUT			See Emission	n Calculation	s in Appendix	ç			-		
									-		
									-		
				NEODIA	ATION FOR	THIS SOLL	RCE				
	TOXIC AIR PO	DLLUTANT	EMISSION	SINFORM	ATION FOR	1110 300			ATIONS		
			SOURCE OF	EXP	ECTED ACTUA	AL EMISSIONS	SAFTER CONT	RULS / LIMIT			
CAS NO.		EMISSION		lb/hr lb/day			ib/yr				
TOXIC AIR POLLUTANT		CAS NO.	FACTOR		is in Appendix						
			See Chissio		o in reportant						
			-								
Attackments (1) opicions cal	culations and supporting documer	ntation; (2) indica	ate all requested s	state and federa	I enforceable per	mit limits (e.g. ho	ours of operation,	emission rates)	and de		

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and requested state and

Attach Additional Sheets As Necessary

### FORM B9 EMISSION SOURCE (OTHER)

C 10 C 0 00/00/146	NCDEO/Division of Air Qualit	v - Application	for Air Permit to Construct/Ope	erate B9				
REVISED 09/22/16 MISSION SOURCE DESCRIPT	ION:	7	EMISSION SOURCE ID NO: ES-CLR1 through 6					
ellet Coolers			CONTROL DEVICE ID NO(S):	CD-CLR-1 through 6				
PERATING SCENARIO:	1 OF1		EMISSION POINT (STACK) ID	NO(S): EP-7 through 12				
		RAM): ewiy formed pe	llets down to an acceptable sto					
			MAX. DESIGN	REQUESTED CAPACITY				
	PROCESS - CONTINUOUS F	PROCESS		LIMITATION(UNIT/HR)				
Т	/PE	UNITS	CAPACITY (UNIT/HR)	LINERATION				
Dried Wood	- 6	ODT	71.71					
	NG PROCESS - BATCH OPE YPE	RATION UNITS	MAX. DESIGN CAPACITY (UNIT/BATCH)	REQUESTED CAPACITY LIMITATION (UNIT/BATCH)				
MAXIMUM DESIGN (BATCHE	s / HOUR):		0/01					
REQUESTED LIMITATION (BA	TCHES / HOUR):	(BATCHES		DTU/UDV N/A				
FUEL USED: N/A		TOTAL MA	XIMUM FIRING RATE (MILLION	IBIU/HR): N/A				
	el USE: N/A	REQUEST	ED CAPACITY ANNUAL FUEL L	JSE: N/A				

Attach Additional Sheets as Necessary

### FORM C4

## CONTROL DEVICE (CYCLONE, MULTICYCLONE, OR OTHER MECHANICAL)

REVIS	
CONT	
EMISS	
DESC	
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CONTRO	OL DEVICE (C	YCLONE	, MULI	ICYCLON	IC,	URUTHE			
EVISED 09/22/16		ion of Air Qua	ality - Appli	cation for Air	Pem	nit to Construct		ALC CLARK	
CONTROL DEVICE ID NO: CD-C		CONTROLS E	MISSIONS	FROM WHICH	HEM		EIDT	OF 1	LR 1 through 6 UNITS
MISSION POINT (STACK) ID NO(S)		POSITION IN	SERIES OF	CONTROLS		NO. 1			UNITO
OPERATIN	G SCENARIO:		DE OFAL	REQUIRED (P	ED 2	0 0112\2	П	YES	V NO
	OF_1				_		and the second second		
DESCRIBE CONTROL SYSTEM: Six (6) identical high efficiency The cyclones operate under ne	cyclones are used to	o capture bulk	( PM emiss	ions from six	(6) p	ellet coolers. I	Each	coler vents	to one dedicated cyclo
POLLUTANT(S) COLLECTED:			PM	PM10	_	PM <sub>2.5</sub>			Y
BEFORE CONTROL EMISSION	RATE (LB/HR):		See Emis	sions Calculat	ions	in Appendix C	. ,		
CAPTURE EFFICIENCY:			90+	% 90+	%	6 <u>90+</u>	%		_%
CONTROL DEVICE EFFICIENC	4.			%	%	6	%		_%
				%		6	%		%
CORRESPONDING OVERALL E					_ `	-			
EFFICIENCY DETERMINATION						in Annondiv C			_
TOTAL AFTER CONTROL EMIS	SION RATE (LB/HR):		See Emis	sions Calculat	lions	in Appendix C			
PRESSURE DROP (IN. H <sub>2</sub> 0):	MIN	6.0" MAX						_	Add March Look
INLET TEMPERATURE (°F):	MIN	MAX	Ambient	OUTLET TEN	IPER	ATURE (°F):	-3.	MIN	MAX Ambient
INLET AIR FLOW RATE (ACFM	): 21,000 each			BULK PARTIC		DENSITY (LB/F	*): 2	80E-U5	
POLLUTANT LOADING RATE	GR/FT <sup>3</sup> ): 0.2		OVOI ONT		2.4.4	-1-1-1-1-1		MI	ULTICYCLONE
SETTLING CHAMBER			CYCLONE			RECTANGLE	NO	TUBES:	
LENGTH (INCHES):	INLET VELOCITY (I				_			VETER OF 1	UBES:
WIDTH (INCHES):	DIMENSIONS (INC	Dd: 22	structions	IF WET SPRAY UTILIZED			HOPPER ASPIRATION SYSTEM?		
HEIGHT (INCHES):	H: 38	Lb: 74.25		FLOW RATE		M):		YES	NO
VELOCITY (FT/SEC.):	W: 25 De: 32	Lc: 84.5		MAKE UP RA			LOU	JVERS?	
NO. TRAYS:	D: 54	S: 44.38						YES	NO NO
NO. BAFFLES:	TYPE OF CYCLONE		NTIONAL	HIGH	EFFI	CIENCY		OTHER	
DESCRIBE MAINTENANCE PR	OCEDURES:							and the second division of the second divisio	NSTRIBUTION
Periodic inspection of mechan manufacturer.	nical integrity during	plant outage	s as specif	ied by		SIZE (MICRONS)		EIGHT % F TOTAL	CUMULATIVE %
DESCRIPTING AIR ST	REAM:					0-1			Unknown
The cyclones used for particu	late capture the pelle	et coolers are	ducted to	a discharge	[	1-10			
stack. The stack is common t	to all cooler aspiratio	on systems.			[	10-25			
						25-50			
						50-100	-	_	
						>100			TOTAL = 100
							-		TOTAL = 100
DESCRIBE ANY MONITORING None		THE RELATIO	INSHIP OF	THE CONTRO	)L DE	EVICE TO ITS E	MISSI	ON SOURC	E(S):
Lorent OEL AND TE FILOD, FILI		Attach Ad	Iditional	Sheets As	s Ne	ecessary			

## FORM B

SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED	FOR ALL	SOURCES)
SPECIFIC EMISSION SOURCE INFORMATION (RECORD		•••••••

	EQ/Division of	Air Quality - A	onlication for	Air Permit to	Construct/O	perate		В
	EQ/DIVISION OF	An Quality - A	ppriorition 101	EMISSION SC	URCE ID NO	ES-PMFS		
MISSION SOURCE DESCRIPTION:			-	CONTROL DE	VICE ID NO	S): CD-PMFS-	BV	
ellet Mill Feed Silo				EMISSION PO	DINT (STACK)	ID NO(S): EP	-6	
OPERATING SCENARIO1 OF	1			LIVIIOOIOIU I C				
ESCRIBE IN DETAILTHE EMISSION SOURCE PR	OCESS (ATTAC	H FLOW DIAG						
pellet press silo stores dried ground wood prior	to transport to I	the pellet pres	ses.					
TYPE OF EMISSION SOURCE				FORM B1-B9	ON THE FO	LOWING PAG	ES):	
TYPE OF EMISSION SOURCE	CHECK AND		ing (Form B4)		Manuf	of chemicals/co	atings/inks (F	form B7)
Coal,wood,oil, gas, other burner (Form B1)		VVOOdwork	ishing/printing	(Form B5)		tion (Form B8)	•	
Int.combustion engine/generator (Form B2)	1	Coating/in	os/bins (Form	B6)		Form B9)		
Liquid storage tanks (Form B3)	1	Storage si	DATE MANUI	ACTURED.	- Outer p			
START CONSTRUCTION DATE:			EXPECTED (	P. SCHEDUL	F. 24 HR/	DAY 7 DA	AY/WK 52	_ WK/YR
MANUFACTURER / MODEL NO .: Mast Lepley			EXPECTED	NESH	AP (SUBPAR			_
S THIS SOURCE SUBJECT TO? NS	PS (SUBPARTS	(). D MAY 25%	IUN ALIG 2	5% SEP-NO	₩ 25%			
PERCENTAGE ANNUAL THROUGHPUT (%): DEC- CRITERIA AIR	FEB 25% MA	R-MAY 25%	IS INFORM	TATION FO	R THIS SC	DURCE		
CRITERIA AIR	POLLUTAN	Limbolon	EXPECTE	DACTUAL		POTENTIAL	EMISSIONS	
		SOURCE OF	(AFTER CONT		(REFORE CON	TROLS / LIMITS)	(AFTER CON	TROLS / LIMITS)
		EMISSION		tons/vr	lb/hr	tons/yr	lb/hr	tons/yr
AIR POLLUTANT EMITTED		FACTOR	lb/hr					
PARTICULATE MATTER (PM)		See Emission	n Calculation	s in Appendiz				
PARTICULATE MATTER<10 MICRONS (PM10)								
PARTICULATE MATTER<2.5 MICRONS (PM2.5)								
SULFUR DIOXIDE (SO2)								
NITROGEN OXIDES (NOx)								
CARBON MONOXIDE (CO)								
VOLATILE ORGANIC COMPOUNDS (VOC)								
LEAD								
OTHER		VE ENIOCH	ONC INFO	DIATION	OR THIS	SOURCE		
OTHER HAZARDOUS A	IR POLLUIA	NIEMISSI	UNS INFO	DACTUAL		POTENTIAL	EMISSIONS	5
		SOURCE OF	EXPECTE	DACTORE		TROLS / LIMITS)	(AFTER CON	TROLS / LIMITS)
		EMISSION		ROLS / LIMITS)	Ib/hr	tons/yr	lb/hr	tons/yr
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR	lb/hr	tons/yr	10/11	toridiyi		
N/A								
		THEORYON	NEODM	ATION FOR	D THIS SO	URCE		
TOXIC AIR I	POLLUTANT	EMISSION	SINFORM	ATTON POL	11110 00			TATIONS
		SOURCE	EXPE	CTED ACTUA	L EMISSIONS	SAFTER CONT	ROLS / LIMI	TATIONS
		OF		b/hr	1	b/day		lb/yr
TOXIC AIR POLLUTANT	CAS NO.	EMISSION	+	DATI	1			
N/A				_				
					-			
							-	

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and rederal enforceable permit limits (e.g. nodes of operation, emission account documentation) who describe are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE

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### FORM B6 EMISSION SOURCE (STORAGE SILO/BINS)

REVISED 09/22/16	NCDEQ/Divisio	n of Air Quality - App	licatio	n for Air Permit	to Construct/Operate	<b>B6</b>
EMISSION SOURCE DESCR					ON SOURCE ID NO: ES-PMFS	
				CONTRO	DL DEVICE ID NO(S): CD-PMFS-BV	
OPERATING SCENARIO:		OF		EMISSIC	ON POINT(STACK) ID NO(S): EP-6	
DESCRIBE IN DETAIL THE F	PROCESS (ATTACH	FLOW DIAGRAM):				
A pellet press silo stores d	ried ground wood p	rior to transport to th	e pelle	t presses.		
MATERIAL STORED: Dried	ground wood			DENSITY OF N	/ATERIAL (LB/FT3): 40	
CAPACITY	CUBIC FEET:			TONS:		
DIMENSIONS (FEET)	HEIGHT: 70	DIAMETER: 46.6	(OR)	LENGTH:	WIDTH: HEIGHT:	
ANNUAL PRODUCT THR	OUGHPUT (TONS)	ACTUAL:		MAXIMU	JM DESIGN CAPACITY:	
PNEUMATICALLY F	ILLED	MECHANIC	ALLY F	ILLED	FILLED FROM	Dell
BLOWER COMPRESSOR OTHER: NO. FILL TUBES: MAXIMUM ACFM: MATERIAL IS UNLOADED T BY WHAT METHOD IS MAT					□       RAILCAR         □       TRUCK         □       STORAGE PILE         □       OTHER:	
MAXIMUM DESIGN FILLING MAXIMUM DESIGN UNLOA COMMENTS:			05			

#### **Attach Additional Sheets As Necessary**

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### FORM C1 CONTROL DEVICE (FABRIC FILTER)

		ion of Air Quality -			ir Permit to	o Cons	truct/Oper	ate			C1
		CONTROLS EMIS	SIONS ED/		ICH EMISS	SION S	OURCE ID	NO(S): ES	PMFS		
CONTROL DEVICE ID NO: CD-PMFS-	SD 6	POSITION IN SER	IES OF CC	NTRO	LS		NO.	1 OF	1 UN	ITS	
MISSION POINT (STACK) ID NO(S):	EP-0	POSITION IN SER									
OPERATING S			DE SEAL	REOL	IRED (PER	2a.01	12)?	YES	1	NO	
1OF				_		_					
DESCRIBE CONTROL SYSTEM: A bin vent filter is used to create a sli bilo. The bin vent is sized to offset th	ight negative   1e air displace	pressure on the Pe ment created by th	llet Mill Fe e material	ed Silo feed to	. The bin v the silo.	vent co	llects dus	t from the a	ir volume	present	in the
POLLUTANTS COLLECTED:			PM	_	PM-10	_	PM-2.5				
BEFORE CONTROL EMISSION RATE	(LB/HR):			_		-					
CAPTURE EFFICIENCY:				%		_%		%	%		
CONTROL DEVICE EFFICIENCY:			~99.9	_%	~99.9	%	~99.9	_%	%		
CORRESPONDING OVERALL EFFICI	ENCY:			_%		_%		_%	%		
EFFICIENCY DETERMINATION CODE				-		-					
TOTAL AFTER CONTROL EMISSION		): GAUGE?	_	ulation	s in Appen						
PRESSURE DROP (IN H20): MIN:	MAX: 4"	GAUGE! [		MPER	ATURE (°F	): Amt	pient				
BULK PARTICLE DENSITY (LB/FT3):	LB/HR	√ GR/FT <sup>3</sup>			ERATURE						
POLLUTANT LOADING RATE: 0.1		<u> </u>	FILTER	OPERA	TING TEMP	P (°F):	N/A			_	
INLET AIR FLOW RATE (ACFM):	NO OF BAG	S PER COMPARTM				LEN	GTH OF B/	AG (IN.): 120			
NO. OF COMPARTMENTS: 1	EU TER SUR	FACE AREA PER C	ARTRIDG	$E(FT^2)$		DIAN	NETER OF	BAG (IN.):	5.875		
NO. OF CARTRIDGES: TOTAL FILTER SURFACE AREA (FT		AIR TO CLOTH F	RATIO: 6								
DRAFT TYPE: INDUCED/NE	GATIVE V				FILTER I	MATER	IAL:	WOVEN		ELTED	-
DESCRIBE CLEANING PROCEDURE							PAR	TICLE SIZE			
AIR PULSE		SONIC					SIZE	WEIG		CUMU	
		SIMPLE BAG CO	)LLAPSE			(N	IICRONS)	OF TO		_	//
MECHANICAL/SHAKER		RING BAG COLL	APSE				0-1		Unkne	own	
OTHER:							1-10				
DESCRIBE INCOMING AIR STREAM	:					_	10-25	_			
The air stream contains wood dust	particulate en	nissions.					25-50				
							50-100				
							>100				
									TOTAL	= 100	_
ON A SEPARATE PAGE, ATTACH A COMMENTS:	DIAGRAM SH	OWING THE RELA	TIONSHIP	OF TH	E CONTRO	DL DEV		EMISSION	SOURCE	(S):	
		Attach Additio	onal Sh	eets	As Nece	ssar	V				

F

### FORM B

### SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

SPECIFIC LINISOIO	DEQ/Division of	Air Quality - A	nolication fo	or Air Permit to	o Construct/C	Operate		В
		All Quality - A	philodelonine	EMISSION SO	DURCE ID NO	ES-PFB		
EMISSION SOURCE DESCRIPTION: Pellet Fine	Bin			CONTROL DE	VICE ID NO	S): CD-PFB-B	V	
				EMISSION P	DINT (STACK	) ID NO(S): EF	2-15	
OPERATING SCENARIO1	OF1		CDAM).	ENISSIONT		110 110(0)		
DESCRIBE IN DETAILTHE EMISSION SOURCE I	ROCESS (ATTAC	H FLOW DIA	Groation in	allocted in th	a nollat fines	bin which is a	controlled b	v a bin vent
DESCRIBE IN DETAILTHE EMISSION SOURCE I Fine pellet material from hammermill pollution	control system an	d screening o	peration is	collected in a	e pener nico			,
filter.								
		AND STEAD			ON THE EO	LOWING PA	GES):	
TYPE OF EMISSION SOURC	E (CHECK AND		PROPRIATI		Manuf	of chemicals/c	oatinos/inks	(Form B7)
Coal,wood,oil, gas, other burner (Form B1)	L		king (Form B			ation (Form B8)		(,
Int.combustion engine/generator (Form B2)		Coating/fil	nisning/pririu	ng (Form B5)		Form B9)		
Liquid storage tanks (Form B3)	4	Storage si	los/bins (For	JFACTURED:	Uner	onn bo		
START CONSTRUCTION DATE:				OP. SCHEDU	E: 24 HR	/DAY 7 [	AY/WK 52	2 WK/YR
MANUFACTURER / MODEL NO .: Western Pneu	matics Inc.		EXPECTED	UP. SCHEDUI	AP (SUBPAR			
IS THIS SOURCE SUBJECT TO?	ISPS (SUBPARTS	(?):		DED/ CEDI	AF (3001 AN	1017		
PERCENTAGE ANNUAL THROUGHPUT (%): DE	C-FEB 25% M	AK-MAY 25%	JUN-AUG		R THIS SI	DURCE		
CRITERIA Ali	POLLUIANI	EMISSION	13 INFOR	in the test of the	11110 00	POTENTIAL	EMISSIONS	
		SOURCE OF		DACTUAL	(DEFORE CON	TROLS / LIMITS)	(AFTER CON	TROLS / LIMITS)
		EMISSION		FROLS / LIMITS)	Ib/hr	tons/yr	lb/hr	tons/yr
AIR POLLUTANT EMITTED		FACTOR	lb/hr	tons/yr		tons/yr	ik///ii	1
PARTICULATE MATTER (PM)		See Emissio	n Calculatio	ns in Appendi				-
PARTICULATE MATTER<10 MICRONS (PM10)								
PARTICULATE MATTER<2.5 MICRONS (PM2.5)								
SULFUR DIOXIDE (SO2)								
NITROGEN OXIDES (NOx)								
CARBON MONOXIDE (CO)								
VOLATILE ORGANIC COMPOUNDS (VOC)								
LEAD								
OTHER			ONC INFO	DMATION	OP THIS	SOURCE		1.1.1
HAZARDOUS	AIR POLLUIA	NI EMISSI	UNS INFO	ED ACTUAL	UN THIS	POTENTIAL	EMISSIONS	
		SOURCE OF			(DEEODE COM	ITROLS / LIMITS)		TROLS / LIMITS)
		EMISSION		TROLS / LIMITS)	lb/hr	tons/yr	lb/hr	tons/yr
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR	lb/hr	tons/yr	10/11	tonaryi	10/11	
N/A								-
								1
					1			
	POLLUTANT	ENISSION	NEOPH	ATION FOR	THIS SO	URCE	1110-11	
TOXIC AIR	POLLUTANT	T SOURCE	S INFORM					TATIONS
		OF	EXPE	CTED ACTUA	EMISSIONS	AFTER CONT	KULS/LIMI	TATIONS
	0.0.0	EMISSION		lb/hr	l III	o/day		lb/yr
TOXIC AIR POLLUTANT	CAS NO.	ENISSION		iso d				
N/A								
			-					
			+					
Attachments: (1) emissions calculations and supporting	1	diants of mourse	ad state and fr	deral enforceabl	e permit limits (e	e.a. hours of oper	ation, emission	rates) and
Attachments: (1) emissions calculations and supporting	documentation; (2) in	anu monitoring d	evices naunes	or test ports for	this source.			

describe how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE **Attach Additional Sheets As Necessary** 

### FORM B6 EMISSION SOURCE (STORAGE SILO/BINS)

REVISED 09/22/16	NCDEQ/Divis	sion of Air Quality - App	lication	for Air Permit	to Const	truct/Operate	<b>B</b> 6
EMISSION SOURCE DESCRI				EMISSIO	N SOUR	CE ID NO: ES-PFB	
						E ID NO(S): CD-PFB-BV	
OPERATING SCENARIO:	1	OF1_		EMISSIO	N POINT	(STACK) ID NO(S): EP-15	
DESCRIBE IN DETAIL THE P Fine pellet material from har by a bin vent filter.	ROCESS (ATTAC mmermill polluti	CH FLOW DIAGRAM): on control system and s	screeni	ng operation is	collecte	ed in the pellet fines bin which i	s controlled
						(LD/ET2)- 40	
MATERIAL STORED: Fine p				DENSITY OF M TONS:		L(LD/F13). 40	
CAPACITY	CUBIC FEET: 2		(08)	LENGTH:	10/11	DTH: HEIGHT:	
DIMENSIONS (FEET)	HEIGHT:	DIAMETER: 12	(0/)			GN CAPACITY: 6 tph	
ANNUAL PRODUCT THR	DUGHPUT (TONS	S) ACTUAL: MECHANIC	ALLYE			FILLED FROM	
PNEUMATICALLY F		SCREW CONVEYO				RAILCAR	
BLOWER		BELT CONVEYOR			F	TRUCK	
COMPRESSOR		BUCKET ELEVATOR	D		lī	STORAGE PILE	
						OTHER: Conveyor	
NO. FILL TUBES: MAXIMUM ACFM:							
MATERIAL IS UNLOADED T	· <u>·</u> ···						
MATERIAL IS UNLOADED T	0.						
BY WHAT METHOD IS MAT	FRIAL UNLOADE	D FROM SILO?					
BT WHAT METHOD IS MAR							
MAXIMUM DESIGN FILLING	RATE OF MATE	RIAL (TONS/HR):					
MAXIMUM DESIGN UNLOA							
COMMENTS:							
			1.01	A A - No			
		Attach Additiona	ai she	ets as nec	essary	/	

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	FORM	C1	
TROL	DEVICE (	FABRIC	FILTER)

		CON	TROL DEVICE	(FABRIC FI	LIER)	10			C1
REVISED 09/22/16		NCDEQ/Divisio	n of Air Quality - Appli	cation for Air Per	mit to Construc		B		
CONTROL DEVICE ID NO: CD-PFB-BV		CONTROLS EM	ISSIONS FROM WHICH	HEMISSION SOU	RUE ID NO(S):	NO.	2 OF	2 UNIT	5
EMISSION POINT (STACK) ID NO(S):	EP-15	POSITION IN SE	ERIES OF CONTROLS			140.	=		
OPERATING SCENAL	RIO:	No.					YES	2	NO
1OF1	_		P.E. SEAL REQUIRED	(PER 2q .0112)?			100	100 mil	
DESCRIBE CONTROL SYSTEM: The bin vent baghouse collects dust from wi	hen wood	enters or exits th	e fines bin and displac	es air and also p	rovides control	from hammern	niil area clean up a	ir.	
POLLUTANTS COLLECTED:			PM		PM-10	PM-2.5			
BEFORE CONTROL EMISSION RATE (LB/HR	):		See calculation in Ap	pendix C				~	
CAPTURE EFFICIENCY:			<u>~99.9</u> %		~99.9	% ~99.9			
CONTROL DEVICE EFFICIENCY:							%	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
CORRESPONDING OVERALL EFFICIENCY:			%			<sup>%</sup>	.70		
EFFICIENCY DETERMINATION CODE:						·			
TOTAL AFTER CONTROL EMISSION RATE (		GAUGE?	See calculation in Ap	opendix C	NO			_	
PRESSURE DROP (IN H20): MIN: MAX: 0		GAUGE?	INLET TEMPERATUR	RE (°F); 120					
BULK PARTICLE DENSITY (LB/FT): 1.43E-0	5	J.√BR/FT <sup>3</sup>	OUTLET TEMPERAT						
POLLUTANT LOADING RATE: 0.1		a braili	FILTER OPERATING					_	
INLET AIR FLOW RATE (ACFM): 9,800	NO OF	BAGS PER COMP				LENGTH OF E			
NO. OF COMPARTMENTS: 1	FILTEP	SURFACE AREA	PER CARTRIDGE (FT):			DIAMETER OF	BAG (IN.): 5.75		
NO. OF CARTRIDGES:		AIR TO CLOTH	HRATIO: 6.45					4	
TOTAL FILTER SURFACE AREA (FT <sup>2</sup> ): 1,520	GATIVE I				FILTER MAT	ERIAL:		FEL	
	GRUVE						PARTICLE SIZE D	STRIBUT	
DESCRIBE CLEANING PROCEDURES:		SONIC				SIZE	WEIGHT %		CUMULATIVE
		SIMPLE BAG	COLLAPSE			(MICRONS)	OF TOTAL		%
		RING BAG CC				0-1		Unknow	1
MECHANICAL/SHAKER			CLAN VE			1-10			
OTHER:						10-25			
DESCRIBE INCOMING AIR STREAM: The air stream contains wood dust particul	les Large	r particles are rer	moved by the upstream	cyclone. The fil	ters discharge	25-50			
to a common stack.						50-100			
to a common stack.						>100			
							1	TOTAL = 1	00
ON A SEPARATE PAGE, ATTACH A DIAGR	AM SHOW	ING THE RELATION	ONSHIP OF THE CONT	ROL DEVICE TO	ITS EMISSION	SOURCE(S):			

FORM B	
C EMISSION SOURCE INFORMATION	(REQUIRED FOR ALL SOURCES)

SPECIFIC EMISSION SC	OURCE I	NFORMA	TION (R	EQUIKE	o Construct			В
	Division of A	ir Quality - Ap	plication to	EMISSION S	DURCE ID N	O. ES-HMA		Contract of the local division of the local
MISSION SOURCE DESCRIPTION:			ŀ	EMISSION ST	JURCE ID NO	(S): CD-PFB-	BV	
ammermill Area				CONTROL D	DINT (STAC	(0): 02 () ID NO(S): E	P-15	
PERATING SCENARIO1 OF	1_							
DESCRIBE IN DETAILTHE EMISSION SOURCE PRO Mammermill area dust from the hammermill and so	DCESS (ATT	ACH FLOW D	AGRAM):	U. t. Same bin	hin vont fill	or (CD-PEB-B)	() to control	particulate
ammermill area dust from the hammermill and sc	reening ope	rations is ven	ted to the pe	ellet fines bin	Dill vent in		.,	
natter emissions.								
				FORM D4 D		OLLOWING P	AGES):	
TYPE OF EMISSION SOURCE (CH	IECK AND C	OMPLETE AP	PROPRIATE	FORM BI-C		of chemicals/c	oatings/inks	(Form B7)
Coal wood oil gas other burner (Form B1)	L	I VVOODWOLK	ing (Form De	*)		ation (Form B8		
Int.combustion engine/generator (Form B2)		Coating/fir	ishing/printin	g (Form B5)	↓ Other (	Form B9	,	
Liquid storage tanks (Form B3)		Storage si	los/bins (For	FACTURED:	Voller	r onn bej		
TART CONSTRUCTION DATE:			DATEMANU	OP. SCHEDU	IE 24 H	R/DAY 7	DAY/WK	2_WK/YF
AANUEACTURER ( MODEL NO · Western Pneuma	tics Inc.		EXPECTED	OP. SCHEDU	AP (SUBPA	7152)		
		S?):			P-NOV 25	((O.))		
	FEB 25%	MAR-MAY 25	% JUN-AU	AATION E	DR THIS S	OURCE		
PERCENTAGE ANNUAL THROUGHPUT (%): DEC- CRITERIA AIR PO	LLUTANI	LINICOTON	0 111 0111			POTENTIAL	EMISSIONS	
		SOURCE OF		DACTUAL		TROLS / LIMITS)		ROLS / LIMITS)
		EMISSION		ROLS / LIMITS)	Ib/hr	tons/yr	lb/hr	tons/yr
AIR POLLUTANT EMITTED		FACTOR	lb/hr	tons/yr		tonsiyi		
PARTICULATE MATTER (PM)		See Emissio	n Calculatio	ns in Append				
PARTICULATE MATTER<10 MICRONS (PM10)								
PARTICULATE MATTER<2.5 MICRONS (PM2.5)								
SULFUR DIOXIDE (SO2)						-		
NITROGEN OXIDES (NOx)								
CARBON MONOXIDE (CO)								1
VOLATILE ORGANIC COMPOUNDS (VOC)						1		
LEAD								
OTHER		TELLOOK	NO INCO	DIANTION	FOR THIS	SOURCE	A PARTY NAMES	
OTHER HAZARDOUS AIR F	POLLUTAI	VI EMISSIC	UNS INFU	RIMATION	TON THIS	POTENTIAL	EMISSIONS	3
		SOURCE OF	EXPECTE	DAGIOAL		NTROLS / LIMITS)	(AFTER CON	TROLS / LIMITS
		EMISSION		tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR	lb/hr	tons/y	1.Milli	- contract -		
N/A								
		-						1
						-		
					R THIS S	OURCE		100
TOXIC AIR POL	LUTANT	EMISSIONS	S INFORM	ATION FC	R THIS S			
TOXIC AIR POL	LUTANT	SUURCE	INFORM EXPEC	TED ACTUA	R THIS S	OURCE S AFTER CON	TROLS / LIN	
		OF	EXPEC	TED ACTUA	EMISSION	OURCE S AFTER CON b/day		IITATIONS Ib/yr
TOXIC AIR POL	LUTANT CAS NO.	OF	EXPEC	ATION FC	EMISSION	S AFTER CON		
		OF	EXPEC	TED ACTUA	EMISSION	S AFTER CON		
TOXIC AIR POLLUTANT		OF	EXPEC	TED ACTUA	EMISSION	S AFTER CON		
TOXIC AIR POLLUTANT		OF	EXPEC	TED ACTUA	EMISSION	S AFTER CON		
TOXIC AIR POLLUTANT		OF	EXPEC	TED ACTUA	EMISSION	S AFTER CON		
TOXIC AIR POLLUTANT		OF	EXPEC	TED ACTUA	EMISSION	S AFTER CON		
TOXIC AIR POLLUTANT	CAS NO.	OF EMISSION		TED ACTUA		b/day		b/yr

Attachments: (1) emissions calculations and subporting documentation, (2) Moscribe any monitoring devices, gauges, or test ports for this source. describe how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE Attach Additional Sheets As Necessary

### FORM B9 EMISSION SOURCE (OTHER)

1

		liby Application f	or Air Permit to Construct/Oper	ate B9
REVISED 09/22/16 EMISSION SOURCE DESCRI	NCDEQ/Division of Alf Qua	anty - Apprication it	EMISSION SOURCE ID NO: ES	S-HMA
Hammermill Area	PHON.		CONTROL DEVICE ID NO(S): 0	D-PFB-BV
	1 OF	1	EMISSION POINT (STACK) ID	NO(S): EP-15
OPERATING SCENARIO:		0.0.110		
Hammermill area dust from f Hammermill area dust from f particluate matter emissions	he hammermill and screening	g operations is ven	ted to the pellet fines bin vent f	ilter (CD-PFB-BV) to control
		C DDOCESS	MAX. DESIGN	REQUESTED CAPACITY
MATERIALS ENTERI	NG PROCESS - CONTINUOU	UNITS	CAPACITY (UNIT/HR)	LIMITATION(UNIT/HR)
	ТҮРЕ	ODT	71.71	
Dried Wood				
MATERIALS ENTE	RING PROCESS - BATCH O	PERATION UNITS	MAX. DESIGN CAPACITY (UNIT/BATCH)	REQUESTED CAPACITY
	ТҮРЕ			
MAXIMUM DESIGN (BATCH	ES / HOUR):			
REQUESTED LIMITATION (	BATCHES / HOUR):	(BATCHES		
FUEL USED: N/A		TOTAL MA	XIMUM FIRING RATE (MILLION	BTU/HR): N/A
MAX CARACITY HOURI Y	UFL USE: N/A	REQUEST	ED CAPACITY ANNUAL FUEL U	SE: N/A
MAX. CAPACITY HOURLY I COMMENTS:	UEL USE: N/A	IREQUEST	ED CAPACITY ANNUAL POLL O	

FORM B SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

B

EVISED 09/22/16	NCDE	EQ/Division of /	Air Quality - A	pplication for	Air Permit to	Construct/O	perate	DD4 then 4			
MISSION SOURCE DESCRIPTIO	N:				EMISSION SC	URCE ID NO:	ES-FPH, ES-	PB1 thru 4			
inished Product Handling/Pellet	Loadout Bins/Pelle	t Loadout					S-PL1 and 2				
Instied Produce Hundring/Feiler					CONTROL DE	VICE ID NO(S	VICE ID NO(S): CD-FPH-BF				
PERATING SCENARIO1	OF	1			EMISSION PC	DINT (STACK)	ID NO(S): EP-	-16			
	ION SOURCE PROC	CESS (ATTACH	FLOW DIAGF	RAM):					Landaut		
					ut operations	i (ES-PL-1, -2)	. Emissions fr	om the Pelle	Loadour		
elletized product is conveyed to Bins are controlled by a bagfilter	Pollet Loadout is a	ccomplished b	y gravity feed	l of the pellets	s into trucks f	hrough a cov	ered shoot that	at automatica	lly		
Bins are controlled by a bagfilter elescopes upward during the lo	adout process to ma	aintain constan	t contact with	product as if	is loaded to	prevent emis:	sions. Althoug	h emissions	to the		
elescopes upward during the lo atmosphere from conveyance fro	om the storage bins	are minimal be	cause of drie	d wood fines	have been re	moved in the	pellet coolers,	a slight neg	ative		
tmosphere from conveyance fro pressure is maintained in the loa	dout building a fire	prevention me	asure to preve	ent any buildu	ip of dust on	surfaces with	in the building	, The slight i	regative		
processorie produced via an indu	iced draft fan that ei	xnausts to the	same baginte	tilat controls	, minor acor.		-		s silo.		
TYPE OF F	MISSION SOURCE	(CHECK AND C	COMPLETE AR	PPROPRIATE	FORM B1-B9	ON THE FOL	LOWING PAG	caj.			
Coal,wood,oil, gas, other burne	r (Form B1)	•	Woodwork	ing (Form B4)		I IVIAIIUI. C	A Chemicale of	atings/inks (F	om 67)		
Int.combustion engine/generate	or (Form B2)		Coating/fin	ishing/printing	(Form B5)	Incinera	tion (Form B8)				
Liquid storage tanks (Form B3)	n (i oitii 02)		Storage sil	los/bins (Form	B6)	Other (F	form B9)				
START CONSTRUCTION DATE:				DATE MANUF	ACTURED:				WK/YR		
MANUFACTURER / MODEL NO .:	Agra Industries Inc.			EXPECTED C	P. SCHEDUL	E: _24 HR/I	DAY _7_ D	AY/WK 52	VVN/TR		
	NCD.		'):		NESH.	AP (SUBPART	'S?):				
S THIS SOURCE SUBJECT TO? PERCENTAGE ANNUAL THROU		TO 0/0/ 1400	1036 VANA	JUN-AUG 2	5% SEP-NO	√ 25%					
PERCENTAGE ANNUAL THROU	GHPUT (%): DEG-FE	POLLUTAN	TEMISSION	<b>VS INFORM</b>	ATION FO	R THIS SO	URCE				
	GIGTEROTTE		SOURCE OF	EXPECTE	DACTUAL		POTENTIAL	EMISSIONS			
			EMISSION	(AFTER CONTI		(BEFORE CON	TROLS / LIMITS)		ROLS / LIMITS)		
		FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr			
AIR POLLUTANT EMITTED			See Emission	n Calculations	in Appendix	С					
PARTICULATE MATTER (PM)	010 (014.)										
PARTICULATE MATTER<10 MICR	ONS (PMI10)			-							
PARTICULATE MATTER<2.5 MICH	RONS (PM2.5)										
SULFUR DIOXIDE (SO2)											
NITROGEN OXIDES (NOx)											
CARBON MONOXIDE (CO)											
VOLATILE ORGANIC COMPOUN	IDS (VOC)										
LEAD					1						
OTHER	AZARDOUS AI	D DOLLITA	NTEMISSI	ONS INFO	RMATION	OR THIS S	SOURCE				
	AZARDOUS AI	RPOLLOIM	SOURCE OF	SYPECTE	DACTUAL	T	POTENTIAL	EMISSIONS			
			EMISSION		ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CON	TROLS / LIMITS		
		0.0.00	FACTOR	ib/hr	tons/vr	lb/hr	tons/yr	lb/hr	tons/yr		
HAZARDOUS AIR POLLUTANT		CAS NO.	FACTOR	10/11	tonory						
N/A											
		_									
		_									
			FILIODION	SINCODI	ATION FOR	THIS SOI	IRCE				
	TOXIC AIR P	OLLUIANI	EMISSION	SINFURM					TATIONS		
			EMISSION	EXPE	CTED ACTUA	L EMISSIONS	AFTER CONT	RULS/LIM			
					b/hr	II II	o/day		lb/yr		
TOXIC AIR POLLUTANT		CAS NO.	FACTOR		Will						
N/A											
						+					
						1					
			-								

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and neural antificeuse point and (1) the source. how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE

### FORM B9 EMISSION SOURCE (OTHER)

Π

	Application f	or Air Permit to Construct/Open	rate B9				
EVISED 09/22/16 NCDEQ/Division of Air Quality - 7 MISSION SOURCE DESCRIPTION: Finished Product Handling		EMISSION SOURCE ID NO: ES	S-FPH				
MISSION SOURCE DESCRIPTION. Finished Floader Landang		CONTROL DEVICE ID NO(S):	CD-FPH-BF				
DERATING SCENARIO: 1 OF1		EMISSION POINT (STACK) ID	NO(S): EP-16				
OPERATING SCENARIO:1 OF1 DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM							
collection of transfer points, pellet screening operations, and p	ellet conveyi	ng.					
	0E88	MAX. DESIGN REQUESTED					
MATERIALS ENTERING PROCESS - CONTINUOUS PRO	UNITS	CAPACITY (UNIT/HR)	LIMITATION(UNIT/HR)				
ТҮРЕ	ODT	74.94					
Dried Wood							
	TION	MAX. DESIGN	REQUESTED CAPACITY				
MATERIALS ENTERING PROCESS - BATCH OPERA	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UNIT/BATCH)				
TYPE	Gillio						
MAXIMUM DESIGN (BATCHES / HOUR):							
MAXIMUM DESIGN (BATCHES / HOUR): REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES						
REQUESTED LIMITATION (BATCHES / HOUR):	TOTAL MA	XIMUM FIRING RATE (MILLION	BTU/HR): N/A				
MAXIMUM DESIGN (BATCHES / HOUR): REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED: N/A MAX. CAPACITY HOURLY FUEL USE: N/A	TOTAL MA		BTU/HR): N/A SE: N/A				

### FORM B6 EMISSION SOURCE (STORAGE SILO/BINS)

		ision of Air Qua	lify - Apr	lication	tor Air I	Permit to Co	onstruct	/Operate		<b>B6</b>
REVISED 09/22/16				PROGROU	F	MISSION SC	JURCE	D NO: ES-PB1	through 4	
EMISSION SOURCE DESCR	IPTION: Four (4	4) Pellet Loado	ul D1115					NO(S): CD-FP		
		OF	1					ACK) ID NO(S):		
OPERATING SCENARIO:			ODAM).							
DESCRIBE IN DETAIL THE P Pellet loadout bins are used	KUCESS (AT I/	s for shipping	Pellets a	re then	loaded f	rom the bin	ns into tr	ucks/train in ei	ther of the tw	vo pellet
Pellet loadout bins are used loadout areas.	i to atore pened	o tot atticking.								
IVauvut aleas.										
	Deadurat				DENSIT	Y OF MATE	RIAL (LE	3/FT3): 40		
MATERIAL STORED: Pellet Product						1,200 (total 1				
CAPACITY	CUBIC FEET:	DIAMETE	₹. 12	(OR)	LENGTH		WIDTH:		IT:	
	HEIGHT:		5. Illi					APACITY: 71.1	19 ODT/hr	
ANNUAL PRODUCT THRO PNEUMATICALLY F			ECHANIC	ALLYF				FILLE	DFROM	
and a second	Contraction of the second s				-			RAILCAR		
		SCREW CONVEYOR						TRUCK		
								STORAGE PILI	E	
		BUCKET ELEVATOR     STORAGE PILE       OTHER:     OTHER: Conveyor								
		LI VINER.								
NO. FILL TUBES:										
MAXIMUM ACFM: 750 each										
MATERIAL IS UNLOADED T	0:									
BY WHAT METHOD IS MAT		ED FROM SUC	)?							
BY WHAT METHOD IS MAT	ERIAL UNLOAL		<i>-</i> 1							
MAXIMUM DESIGN FILLING		TERIAL (TONS/	-IR):							
MAXIMUM DESIGN UNLOA	DING RATE OF									
COMMENTS:										
1										

# FORM B9 EMISSION SOURCE (OTHER)

Π

1

EWI35ION 3			Г	<b>B</b> 9		
REVISED 09/22/16 NCDEQ/Division of Air Quality - Ap	oplication	for Air Permit to Construct/Oper	ate			
EMISSION SOURCE DESCRIPTION: Pellet Loadout 1 and 2		EMISSION SOURCE ID NO: ES				
		CONTROL DEVICE ID NO(S):				
OPERATING SCENARIO:1 OF1		EMISSION POINT (STACK) ID NO(S): EP-16				
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM):	4					
Final product is loaded into trucks in either of the two (2) pellet lo	adout area	15.				
		MAX. DESIGN	REQUESTED	CAPACITY		
MATERIALS ENTERING PROCESS - CONTINUOUS PROCE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(			
ТҮРЕ		70.83				
Dried Wood	ODT	70.00				
			REQUESTED	CADACITY		
MATERIALS ENTERING PROCESS - BATCH OPERATIO	ON	MAX. DESIGN				
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (U	NITBATCH		
MAXIMUM DESIGN (BATCHES / HOUR):	BATCHES	XXR):				
REQUESTED EIMITATION (BATCHEST HEET)		XIMUM FIRING RATE (MILLION	BTU/HR) N/A			
FUEL USED. MIR	TOTAL MA	ED CAPACITY ANNUAL FUEL U	SE N/A			
MAX. CAPACITI HOURETT BEE BODE. HIT	REQUEST	ED CAPACITT ANNOALT OLL O				
COMMENTS:						
Attach Addition	nal She	ets as Necessary				

### FORM C1 CONTROL DEVICE (FABRIC FILTER)

	vision of Air Quality	Application for	Air Permit to	Construct/Oper	ate		C1
	CONTROLS EMIS	SIONS FROM W	HICH EMISS	ION SOURCE ID	NO(S):		
CONTROL DEVICE ID NO: CD-FBH-BF		Contra i reality		ES-FPH	I, ES-PB-1 thr	ough 12, ES-	PL1 and
THE OTACIAN DINGS. ED 15	POSITION IN SEP	RIES OF CONTR	OLS	NO.	1 OF	1 UNITS	
EMISSION POINT (STACK) ID NO(S): EP-16 OPERATING SCENARIO:	FOSITIONINGEL						
a second and the second s	and the local design of the second	P.E. SEAL REC	UIRED (PER	2g .0112)?	YES	V NO	
1OF1 DESCRIBE CONTROL SYSTEM:							
DESCRIBE CONTROL SYSTEM: This bagfilter controls particulate from the finish of loading finished product from the bins into th	ed product handling e trucks.	pellet conveyer	rs and screen	13, 45 Well 45 Life	pener lota o		
POLLUTANTS COLLECTED:		PM	PM-10	PM-2.5			
BEFORE CONTROL EMISSION RATE (LB/HR):		See calculatio	n in Appendi	x C			
CAPTURE EFFICIENCY:		~ <b>99.9</b> %	~99.9	% ~99.9	_%	%	
CONTROL DEVICE EFFICIENCY:					_%	%	
CORRESPONDING OVERALL EFFICIENCY:		%		%	%	%	
EFFICIENCY DETERMINATION CODE:							
TOTAL AFTER CONTROL EMISSION RATE (LB/	IR):	See calculatio					No
PRESSURE DROP (IN H20): MIN: MAX: 6"	GAUGE?	VES	NO	Warning	Alarm 🔽	Yes	
BULK PARTICLE DENSITY (LB/FT3): 1.43E-05		INLET TEMPE					
POLLUTANT LOADING RATE: 0.1 LB/HR	✓ GR/FT <sup>3</sup>	OUTLET TEM					
INLET AIR FLOW RATE (ACFM): 35,500		FILTER OPER	RATING TEMP	LENGTH OF B	AC (INI ): 444		
NO. OF COMPARTMENTS: 1 NO. OF B	AGS PER COMPART	MENT:	2.	DIAMETER OF		5	
	JRFACE AREA PER	CARTRIDGE (FI	-):	DIAMETER	DAO (IN.). OI		
TOTAL FILTER SURFACE AREA (FT <sup>2</sup> ): 4,842	AIR TO CLOTH				WOVEN	FELTE	D
	FORCED/POSIT		FILL LIVE	PAR	TICLE SIZE D		
DESCRIBE CLEANING PROCEDURES	·			SIZE	WEIGHT		ULATIVE
AIR PULSE	SONIC SIMPLE BAG CO			(MICRONS)	OF TOT		%
REVERSE FLOW				0-1		Unknown	
MECHANICAL/SHAKER	RING BAG COL	LAFSE		1-10			
OTHER:				10-25			
DESCRIBE INCOMING AIR STREAM: The air stream contains wood dust particules.				25-50			
The an stream contains frood dust P-rabilities				50-100			
				>100			
						TOTAL = 10	0
ON A SEPARATE PAGE, ATTACH A DIAGRAM S COMMENTS:	SHOWING THE RELA	TIONSHIP OF T	HE CONTRO	L DEVICE TO ITS	SEMISSION S	OURCE(S):	

### FORM B

# SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

SF LOIT TO EMILIOU	CDEQ/Division of A		polication fo	r Air Permit to	Construct/C	)perate		D
EVISED 09/22/16 N	CDEQ/Division of A	tr duanty - A	spincation to	EMISSION	URCE ID NO	ES-CLR 1 th	rough 6	
MISSION SOURCE DESCRIPTION: Pellet Cod	oler Recirculation			CONTROL DE	VICE ID NO(	S): CD-PCR-B	V	
				CONTROL DL	DINT (STACK	DID NO(S): EP	-23	
PERATING SCENARIO1	OF1		A					
ESCRIBE IN DETAILTHE EMISSION SOURCE ix (6) Pellet Coolers follow the pellet presses	PROCESS (ATTAC	H FLOW DIAG	GRAM):		arage tompo	rature. The rec	circulation fo	r the pellet
iv (6) Pellet Coolers follow the pellet presses	to cool the newly for	ormed pellets	down to an	acceptable si	orage tempe	lature. The fee		-
oolers is controlled by a bin vent filter.								
				FOON DA DE	ON THE FO	LOWING PAG	GES):	
TYPE OF EMISSION SOUR	CE (CHECK AND C	OMPLETE AP	PROPRIATE	- FORM BI-D	Manuf	of chemicals/co	oatings/inks (F	Form B7)
Coal,wood,oil, gas, other burner (Form B1)		VVODOWOIK		*)		ation (Form B8)		
Int.combustion engine/generator (Form B2)		Coating/fir	nishing/printir	ng (Form B5)	Other (I	ation (Form DO)		
Liquid storage tanks (Form B3)		Storage si	los/bins (For	m B6)	J Other (I	-orm Ba)		
START CONSTRUCTION DATE:			DATE MANU	FACTURED:		DAY 7 D	AY/WK 52	WK/YR
MANUFACTURER / MODEL NO.: Western Pne	umatics Inc.		EXPECTED	OP. SCHEDUL	E:		ATTAIL 32	
		?):		NESH	AP (SUBPAR	15?):		<u>s</u>
S THIS SOURCE SUBJECT TO?		D BEAN OFOL	JUN-AUG	25% SEP-1	NOV 25%	TIDAE		
CRITERIA A	IR POLLUTANT	EMISSION			I HIS SC	JURCE	THEOLONIC	
Or an Er an er		SOURCE OF	EXPECTE	D ACTUAL		I OTENTING	EMISSIONS	DOLO (LIMITO)
		EMISSION		TROLS / LIMITS)		TROLS / LIMITS)	(AFTER CONT	
		FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
		See Emissio	n Calculatio	ns in Appendi	xC			
PARTICULATE MATTER (PM)		OCC LINCOIC		T				
PARTICULATE MATTER<10 MICRONS (PM10)								
PARTICULATE MATTER<2.5 MICRONS (PM2.5)								
SULFUR DIOXIDE (SO2)								
NITROGEN OXIDES (NOx)								
CARBON MONOXIDE (CO)								
VOLATILE ORGANIC COMPOUNDS (VOC)								
LEAD								
OTHER	AIR POLLUTAI	IT EMICOL	ONS INFO	RMATION	FOR THIS	SOURCE		
HAZARDOUS	AIR PULLUTAI	SOURCE OF	EXPECT	ED ACTUAL	Τ	POTENTIAL	EMISSIONS	
		EMISSION	LAFTER CON	TROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	TROLS / LIMITS
			lb/hr	tons/yr	ib/hr	tons/yr	lb/hr	tons/yr
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR	1D/11	tonor	1			
N/A								
						-		
			O MEORI	ATION FO	R THIS SO	URCE		
TOXIC AI	R POLLUTANT	EMISSION	SINFURM	ATIONFO	1110 00			TATIONS
		SOURCE	EXPE	CTED ACTUA	L EMISSIONS	SAFTER CON	IRULS / LIVI	TATIONS
		OF		lb/br	1	o/day	T I	lb/yr
TOXIC AIR POLLUTANT	CAS NO.	EMISSION		lb/hr				
N/A					-			
							1	
					1	a a hours of one	ration emission	rates) and
Attachments: (1) emissions calculations and supportin	ig documentation; (2) in	dicate all reques	ted state and f	ederal enforceab	e permit irmits (	e.g. nours of ope		. ,

Attachments: (1) emissions calculations and supporting documentation, (2) indicate an requisive data an requisive data and experiments (1) emissions calculations and supporting documentation, (2) indicate an requisive data and experiments of this source. describe how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE Attach Additional Sheets As Necessary

### FORM B9 EMISSION SOURCE (OTHER)

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REVISED 09/22/16 NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate								
REVISED 09/22/16 NCDEQ/Division of Air Qual EMISSION SOURCE DESCRIPTION: Pellet Cooler Recircula	ation	EMISSION SOURCE ID NO: ES	S-PCR					
		CONTROL DEVICE ID NO(S):	CD-PCR-BV					
OPERATING SCENARIO:1 OF1		EMISSION POINT (STACK) ID	NO(S): EP-23					
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAG Six (6) Pellet Coolers follow the pellet presses to cool the n recirculation for the pellet coolers is controlled by a bin ver	IRAM): Inewly formed pell		age temperature.					
MATERIALS ENTERING PROCESS - CONTINUOUS	PROCESS	MAX. DESIGN	REQUESTED					
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION	UNIT/HR)				
		1,000 CFM						
Pellet Cooler Exhaust								
-								
MATERIALS ENTERING PROCESS - BATCH OP	ERATION	MAX. DESIGN	REQUESTED					
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UNIT/BATC					
1112								
MAXIMUM DESIGN (BATCHES / HOUR):								
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES	S/YR):						
		XIMUM FIRING RATE (MILLION	BTU/HR): N/A					
FUEL USED: N/A	REQUEST	ED CAPACITY ANNUAL FUEL U	SE: N/A					
MAX. CAPACITY HOURLY FUEL USE: N/A	INCOLUT							
COMMENTS:								
Attach Ad	ditional Shee	ets as Necessary						

EVISED 09/22/16	NCDEQ/Div	ision of Air Quality - Application for Air	Permit to Constru	cuoperate			
DNTROL DEVICE ID NO: CD-PCR-BV		EMISSIONS FROM WHICH EMISSION S	OURCE ID NO(S):	ES-PCR	1 OF	1 UNIT	e
MISSION POINT (STACK) ID NO(S): EP-23	B POSITION I	N SERIES OF CONTROLS		NO.	1 UF	TONIT	5
OPERATING SCENARIO:						1	NO
10F1		P.E. SEAL REQUIRED (PER 2q .011)	2)?	T Internal T			
ESCRIBE CONTROL SYSTEM: bin vent filter is used to create a slight negative	pressure on the P	ellet Cooler Recirculation. The bin vent	collects dust from	n the air volume p	resent in the pe		
DLLUTANTS COLLECTED:		PM	PM-10	PM-2.5			
FORE CONTROL EMISSION RATE (LB/HR):		See calculation in Appendix C					
PTURE EFFICIENCY:		~99.9 %	~99.9	% <u>~99.9</u> %		%	
ONTROL DEVICE EFFICIENCY:				%		%	
ORRESPONDING OVERALL EFFICIENCY:		%		%%		%	
FFICIENCY DETERMINATION CODE:							
DTAL AFTER CONTROL EMISSION RATE (LB/HR	:):	See calculation in Appendix C					
RESSURE DROP (IN H20): MIN: MAX: 4"	GAUGE		NO				_
LK PARTICLE DENSITY (LB/FT3): 1.43E-05		INLET TEMPERATURE (°F): Ambie					
DLLUTANT LOADING RATE: 0.004	B/HR GR/FT	OUTLET TEMPERATURE (°F) Amb					
LET AIR FLOW RATE (ACFM): 1,000		FILTER OPERATING TEMP (°F): N/	A	LENGTH OF BA	G (IN): 120		
D. OF COMPARTMENTO, T	OF BAGS PER CO			DIAMETER OF E			
		EA PER CARTRIDGE (FT <sup>2</sup> ):					
DTAL FILTER SURFACE AREA (FT <sup>2</sup> ): 942		OTH RATIO: 6	FILTER MAT	ERIAL: L V	VOVEN	V FEL	TED
RAFT TYPE: INDUCED/NEGATIV	EL FORGEDIP	-OSITIVE			ARTICLE SIZE	DISTRIBUT	ION
ESCRIBE CLEANING PROCEDURES:	SONIC			SIZE	WEIGHT %	6	CUMULATIN
AIR PULSE		AG COLLAPSE		(MICRONS)	OF TOTAL	-	%
	-			0-1		Unknown	1
		0012		1-10			
				10-25			
ESCRIBE INCOMING AIR STREAM.	nissions.			25-50			
ie al su cuil concente nore antipation				50-100			
				>100			
						TOTAL = 1	00
MECHANICAL/SHAKER OTHER: DESCRIBE INCOMING AIR STREAM: The air stream contains wood dust particulate err		COLLAPSE		1-10 10-25 25-50 50-100			
		ATIONSHIP OF THE CONTROL DEVICE T	TO ITS EMISSION	SOURCE(S):			
ON A SEPARATE PAGE, ATTACH A DIAGRAM SH COMMENTS:		ATIONSHIP OF THE CONTROL DEVICE 1	TO ITS EMISSION	SOURCE(S):			

1

MANUFACTURER / MODEL NO.: Catepillar DM8151	C)				MB	FOR		
Existion Source Description: Emergency Generator (536 bhp)         Emission Source ID NO: IES-EG CONTROL EPVICE ID NO(S): N/A           PPERATING SCENARIO         1         0F         1         EMISSION SOURCE ID NO(S): N/A           PPERATING SCENARIO         1         0F         1         EMISSION POINT (STACK) ID NO(S): EP-13           Description         Emission Source (Process (ATTACH FLOW DIAGRAM): Description engine/generator to provide power in the case of an emergency.         EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM 81-89 ON THE FOLLOWING PAGES) Incombusion engine/generator (Form B1)         Manuf. of chemicals/coaling/ internation engine/generator (Form B2)         Date Manuf. of chemicals/coaling/ internation engine/generator (Form B2)         Other (Form B3)           Liquid storage lanks (Form B3)         Storage slosiblins (Form B5)         Other (Form B9)         Date MANUFACTURED: DATE MANUFACTURED:         DATY           START CONSTRUCTION DATE:         NSPS (SUBPARTS?):         III U         NESHAP (SUBPARTS?):         MACT (SUBPARTS?):           ERCENTAGE ANNUAL THROUGHPUT (%): DEC FEB 25%, MAR-MAY 26%, JUN-AUG 26%, SEP-NOV 25%         POTENTIAL EMI (#TERCENTAGE ANNUAL THROUGHPUT (%): DEC FEB 25%, MAR-MAY 26%, JUN-AUG 26%, SEP-NOV 25%         POTENTIAL EMI (#TERCENTAGE ANNUAL THROUGHPUT (%): DEC FEB 25%, MAR-MAY 26%, JUN-AUG 26%, SEP-NOV 25%         POTENTIAL EMI (#TERCENTAGE ANNUAL THROUGHPUT (%): DEC FEB 25%, MAR-MAY 26%, JUN-AUG 26%, SEP-NOV 25%         POTENTIAL EMI (#TERCENTAGE ANNUAL THROUGHPUT (%): DEC FEB 25%, MAR-MAY 26%, JUN-AUG 26%, SEP-NOV 25%         P	5) B	erate	Construct/Op		TION (RE	NFORMA	OURCE	
MISSION SOURCE DESCRIPTION:       CONTROL DEVICE ID NO(S): N/A         PERATING SCENARIO       1       OF       1       EMISSION POINT (STACK) ID NO(S): EP-13         ESGRIEE IN DETAILTHE EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM B1-B9 ON THE FOLLOWING PAGES)       TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM B1-B9 ON THE FOLLOWING PAGES)         Coal.wood.oli, gas, other burner (Form B1)       Woodworking (Form B4)       Manuf. of chemicals/coaling         Lindu storage lanks (Form B3)       Usodworking (Form B4)       Manuf. of chemicals/coaling         Lindu storage lanks (Form B3)       Storage sloss/bins (Form B5)       Other (Form B9)         Start CONSTRUCTION DATE:       DATE: MANUFACTURED:       MANUFACTURED:         THIS SOURCE USUBLECT TO?       VSO (SUBPARTS?);       MACT (SUBPARTS?);       MACT (SUBPARTS?);         STHIS SOURCE USUBLECT TO?       NSPS (SUBPARTS?);       MACT (SUBPARTS?); <td></td> <td>IES-EG</td> <td>URCE ID NO:</td> <td>EMISSION SO</td> <td>рисацон тог</td> <td></td> <td></td> <td></td>		IES-EG	URCE ID NO:	EMISSION SO	рисацон тог			
PPERATING SCENARIO       1       0F       1       EMISSION POINT (STACK) ID NO(S): EP-13         ESECRIDE IN DETAIL THE EMISSION SOURCE PROCESS (ATTACH FLOW DIAGRAM): issel-fired internal combustion generator to provide power in the case of an emergency.       TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM 81-89 ON THE FOLLOWING PAGES) incombustion engine/generator (Form B1)       Manuf. of chemicals/coaling incombustion engine/generator (Form B2)       DATE MANUFACTURED:         Stard constraint       DATE MANUFACTURED:       DATE MANUFACTURED:       DATE MANUFACTURED:       DATE MANUFACTURED:         STHIS SOURCE USUBECT TOO       JSS (SUBPARTS?):       IIII       Q NESHAP       NESHAP         VERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25% MAR-MAY 26% JUN-AUG 26% SEP.NOV 25%       POTENTIAL EMI (PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25% MAR-MAY 26% JUN-AUG 26% SEP.NOV 26%       POTENTIAL EMI (PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25% MAR-MAY 26% JUN-AUG 26% SEP.NOV 26%       POTENTIAL EMI (PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25% MAR-MAY 26% JUN-AUG 26% SEP.NOV 26%       POTENTIAL EMI (PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25% MAR-MAY 26% JUN-AUG 26% SEP.NOV 26%       POTENTIAL EMI (PERCENTAGE ANNUAL THROUGHPUT (%): DEC FEB 26% MAR-MAY 26% JUN-AUG 26% SEP.NOV 26%       POTENTIAL EMI (PERCENTAGE ANNUAL THROUGHPUT (%): DEC FEB 26% MAR-MAY 26% JUN-AUG 26% SEP.NOV 26%       POTENTIAL EMI (PARTICULATE MATTER; PM)<	CONTROL DEVICE ID NO(S): N/A						rator (536 bh	MISSION SOURCE DESCRIPTION: Emergency Gene
INC SUENARIO       EMISSION SOURCE PROCESS (ATTACH FLOW DIAGRAM):         Iescritter In Inc Emission source provide power in the case of an emergency.         TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM B1-B9 ON THE FOLLOWING PAGES)         Coal,wood,oil, gas, other burner (Form B1)       Woodworking (Form B5)         Incombustion engine/generator (Form B2)       Storage alias/grinising/inning (Form B5)         Incombustion engine/generator (Form B2)       DATE MANUFACTURED:         START CONSTRUCTION DATE:       DATE MANUFACTURED:         ADTE MANUFACTURED:       DATE MANUFACTURED:         START CONSTRUCTION DATE:       DATE MANUFACTURED:         CRITERIA ARP POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE       CRITERIA ARP POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE         CRITERIA ARP POLLUTANT EMISSION       SURCE OF       EXPECTED ACTUAL       POTENTIAL EMI         ARR POLLUTANT EMITTER       See Emission Calculations in Appendix C       POTENTIAL EMI         PARTICULATE MATTER       SURCE OF       EXPECTED ACTUAL       POTENTIAL EMI         CARBON MONOXIDE (CO)       DATE       DATE MANUFACTURED<	,	D NO(S): EP-	INT (STACK) I	EMISSION PC			1	05
TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM B1-B9 ON THE FOLLOWING PAGES)         Coal, wood, oil, gas, other burner (Form B1)       Woodworking (Form B4)       Incineration (Form B2)         Liquid storage lanks (Form B3)       DATE MANUFACTURED:       Incineration (Form B3)         Start CONSTRUCTION DATE:       MSPS (SUBPARTS?):       IIII       Z       NESHAP (SUBPARTS?):       MACT (SUBPARTS?):						ELOW DIAG	ESS (ATTACI	PERATING SCENARIO OF
TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM B1-B9 ON THE FOLLOWING PAGES) Coal,wood,oil, gas, other burner (Form B1) Int.combustion engine/generator (Form B2) Liquid storage tanks (Form B3) Liquid sto					ergency.	case of an en	nower in the	ESCRIBE IN DETAIL THE EMISSION SOURCE PROCE
Coal,wood, oil, gas, other burner (Form B1)       Woodworking (Form B4)       Incineration (Form B4)         Liquid storage tanks (Form B3)       Date MANUFACTURED:       Incineration (Form B4)         Storage siles/bins (Form B5)       Date MANUFACTURED:       Incineration (Form B4)         MAILFACTURET MODEL NO: Catepillar DM8151       EXPECTED OP, SCHEDULE: 24_HR/DAY_7_DAYN         STHIS SOURCE SUBJECT TO?       INSPS (SUBPARTS?):       IIII       Q NESHAP (SUBPARTS?):       MACT (SUBPARTS?):         VERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25%       MAR-MAY 25% JUN-AUG 25% SEP-NOV 25%       POTENTIAL EMI         VERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25%       MAR-MAY 25% JUN-AUG 25% SEP-NOV 25%       POTENTIAL EMI         VERCENT AGE ANNUAL THROUGHPUT (%): DEC-FEB 25%       MAR-MAY 25% JUN-AUG 25% SEP-NOV 25%       POTENTIAL EMI         AIR POLLUTANT EMITTED       SOURCE OF       EXPECTED ACTUAL       POTENTIAL EMI         ARTICULATE MATTER (PM)       See Emission Calculations in Appendix C						0200 01 01 01	power in the	iesel-fired internal combustion generator to provide
Coal,wood, oil, gas, other burner (Form B1)       Woodworking (Form B4)       Incineration (Form B4)         Liquid storage tanks (Form B3)       Date MANUFACTURED:       Incineration (Form B4)         Storage siles/bins (Form B5)       Date MANUFACTURED:       Incineration (Form B4)         MAILFACTURET MODEL NO: Catepillar DM8151       EXPECTED OP, SCHEDULE: 24_HR/DAY_7_DAYN         STHIS SOURCE SUBJECT TO?       INSPS (SUBPARTS?):       IIII       Q NESHAP (SUBPARTS?):       MACT (SUBPARTS?):         VERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25%       MAR-MAY 25% JUN-AUG 25% SEP-NOV 25%       POTENTIAL EMI         VERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25%       MAR-MAY 25% JUN-AUG 25% SEP-NOV 25%       POTENTIAL EMI         VERCENT AGE ANNUAL THROUGHPUT (%): DEC-FEB 25%       MAR-MAY 25% JUN-AUG 25% SEP-NOV 25%       POTENTIAL EMI         AIR POLLUTANT EMITTED       SOURCE OF       EXPECTED ACTUAL       POTENTIAL EMI         ARTICULATE MATTER (PM)       See Emission Calculations in Appendix C								
Coalu wood oil, gas, other burner (Form B1)       Woodworking (Form B4)       Incineration (Form B4)         Linucionbustion engine/generator (Form B2)       Coating/finising/printing (Form B5)       Incineration (Form B4)         Linucionbustion engine/generator (Form B3)       DATE MANUFACTURED:       DATE MANUFACTURED:         ITART CONSTRUCTION DATE:       DATE MANUFACTURED:       MACTOR (Form B5)         INAUFACTURER MODEL NO:: Catepillar DM8151       EXPECTED OP, SCHEDULE: 24_HR/DAY_7_DAY/W         STHIS SOURCE SUBJECT TO?       VINSPS (SUBPARTS?):       IIII       VINSPS (SUBPARTS?):       MACTOR         VERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEE 23%       MAR-MAY 25% JUN-AUG 25% SEP-NOV 25%       POTENTIAL EMI         VERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEE 23%       MAR-MAY 25% JUN-AUG 25% SEP-NOV 25%       POTENTIAL EMI         VIRTOR       BOURCE OF       EXPECTED ACTUAL       POTENTIAL EMI         AIR POLLUTANT EMITTED       FACTOR       Bohr       tons/yr       Ibhr         ARTICULATE MATTER (PM)       See Emission Calculations in Appendix C       POTENTIAL EMI         ARTICULATE MATTER (PM)       See Emission Calculations in Appendix C       POTENTIAL EMI         ARTICULATE MATTER (PM)       See Emission Calculations in Appendix C       POTENTIAL EMI         ARTICULATE MATTER (PM)       See Emission Calculations in Appendix C       POTENTIAL EMI	i):	OWING PAG	ON THE FOLL	FORM B1-B9	PROPRIATE	COMPLETE AF	HECK AND	TYPE OF EMISSION SOURCE (C
Intrombustion engine/generator (Form B2)       Coating/initis/instruction (Form B6)       Other (Form B9)         Liquid storage tanks (Form B3)       Storage stochbins (Form B6)       Other (Form B9)         TART CONSTRUCTION DATE:       DATE MANUFACTURED:       TART CONSTRUCTION DATE:       MACT (Storage Stochbins (Form B6)         TART CONSTRUCTION DATE:       V       NSPS (SUBPARTS?):       IIII       V       NESHAP (SUBPARTS?):       MACT (Storage Stochbins (Form B6)         TART CONSTRUCTION DATE:       V       NSPS (SUBPARTS?):       IIII       V       NESHAP (SUBPARTS?):       MACT (Storage Stochbins (Form B6)         STHIS SOURCE SUBJECT TO?       V       NSPS (SUBPARTS?):       IIII       V       NESHAP (SUBPARTS?):       MACT (Storage Stochbins (Form B6)         CRITERIA AIR POLLUTANT EMISSION       ECONTROLS (IMMTS)       DEC.FEE 25%       MAR-MAY 25%       JUN-AUQ 25%       SEP-NOV 23%         FERCENTAGE ANNUAL THROUGHPUT %): DEC-FEE 25%       MAR-MAY 25%       JUN-AUQ 25%       SEP-NOV 23%       EXPECTED ACTUAL       POTENTIAL EMISSION         AIR POLLUTANT EMISTICUMENTED       SOURCE OF       EXPECTED ACTUAL       POTENTIAL EMISSION       Information of the source       <	ngs/inks (Form B7)	onormound			ing (⊢orm B4)	Woodwork		- Cool wood oil cost other humer (Form B1)
TART CONSTRUCTION DATE:     DATE				i (Form B5)	ishing/printing	Coating/fin	Ē	_ Coar, wood, oil, gas, onler burner (Form B7)
TART CONSTRUCTION DATE:     DATE		orm B9)	Cother (Fo	B6)	os/bins (Form	Storage si		I in composition engine generation (i or in pay
IANUFACTURER / MODEL NO:: Catepillar DM8151       IEATOR         STHIS SOURCE SUBJECT TO?       ✓       NSPS (SUBPARTS?):       IIII       ✓       NSPARAP (SUBPARTS?):       MACT (SUBPARTS?):         ERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25%       MAR-MAY 25%       JUN-AUG 25%       SEP-NOV 25%         ERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB 25%       MAR-MAY 25%       JUN-AUG 25%       SEP-NOV 25%         SOURCE CONTROLS / LMMTS)       (#FER CONTROLS / LMMTS)       (#EFORE CONTROLS / LMMTS)       (#FER CONTROLS / LMMTS)         ARTICULATE MATTER (PMI)       See Emission Calculations in Appendix C       –       –         *ARTICULATE MATTER       MORONS (PM10)       –       –       –         *ARTICULATE MATTER       SOURCE (SO2)       –       –       –       –         *ARTICULATE MATTER       SOURCE (CO)       –       –       –       –       –         *ARTICULATE MATTER       SOURCE (CO)       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –       –<	WK 52 WK/Y			ACTURED:	DATE MANUF			TART CONSTRUCTION DATE:
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AIR POLLUTANT EMITTED       EMISSION       EAR ECONTROLS / LIMITS)       (BEFORE CONTROLS / LIMITS)       (AMIR POLLUTANT EMITTED         PARTICULATE MATTER (PM)       See Emission Calculations in Appendix C	USSIONS	POTENTIAL	R THIS SUC		o nu ortin	LIMISSION	OLLUTAN	CRITERIA AIR P
AIR POLLUTANT EMITTED     FACTOR     Ib/fr     tons/yr       PARTICULATE MATTER (PM)     See Emission Calculations in Appendix C	AFTER CONTROLS / LI							
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See Emission Calculations in Appendix C         PARTICULATE MATTER (PM)       See Emission Calculations in Appendix C         PARTICULATE MATTER-10 MICRONS (PM10)       Image: Comparison Calculations in Appendix C       Image: Comparison Calculations in Appendix C         PARTICULATE MATTER-2.5 MICRONS (PM20)       Image: Comparison Calculations in Appendix C       Image: Comparison Calculations in Appendix C       Image: Comparison Calculations in Appendix C         PARTICULATE MATTER (PM)       Image: Comparison Calculations in Appendix C       Image: Comparison Calculations in Appendix C       Image: Comparison Calculations in Appendix C         PARTICULATE MATTER (PM)       Image: Comparison Calculations in Appendix C         MAZARDOUS AIR POLLUTANT       CAS NO.       Source of Emission Calculations in Appendix C       Image: Comparison Calculations in Appendix C       Image: Comparison Calculations in Appendix C         MAZARDOUS AIR POLLUTANT       CAS NO.       See Emission Calculations in Appendix C       Image: Comparison Calculations in Appendix C       Image: Comparison Calculations in Appendix C         MAZARDOUS AIR POLLUTANT       CAS NO.       See Emission Calculations in Appendix C       Image: Comparison Calculations in Appendix C       Image: Comparison Calculations in Appendix C         MAZARDOUS AIR POLLUTANT       Cals NO.       Comparison C		tons/yi				FACTOR		AIR POLI UTANT EMITTED
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HAZARDOUS AIR POLLUTANT     CAS NO.     EXPECTED ACTUAL     POTENTIAL Entropy       HAZARDOUS AIR POLLUTANT     CAS NO.     FACTOR     Ib/hr     tons/yr     Ib/hr     Ions/yr     Ib/hr     tons/yr     Ib/hr     Ions/yr     Ib/hr     Ions/yr     Ib/hr     Ions/yr     Ib/hr     Ions/yr     Ib/hr     Ions/yr     Ion	and the second states	OURCE	OP THIS S	DIA ATION E	ONC INFOR	IT CHIOOL		
HAZARDOUS AIR POLLUTANT       CAS NO.       EMISSION FACTOR       LAT ECONTROLS / LIMITS)       (BEFORE CONTROLS / LIMITS)       (A         HAZARDOUS AIR POLLUTANT       CAS NO.       FACTOR       Ib/hr       tons/yr       Ib/hr       tons/yr       I         See Emission       Calculations in Appendix C	MISSIONS	POTENTIAL	UN TING O	THATION I	JNS INFOR	NIEMISSI	POLLUTA	HAZARDOUS AIR
HAZARDOUS AIR POLLUTANT       CAS NO.       FACTOR       Ib/hr       tons/yr       Ib/hr       tons/yr         HAZARDOUS AIR POLLUTANT       CAS NO.       FACTOR       Ib/hr       tons/yr       Ib/hr       Ions/yr       Ib/hr       Ions/yr       Ib/hr       Ions/yr       Ib/hr       Ions/yr       <	(AFTER CONTROLS / LI		IREEORE CONT					
HAZARDOUS AIR POLLUTANT CAS NO. PACTOR Lotmer to the provide the set of the s	lb/hr tor							
Image: state of the state o		torrer y.				FACTOR	CAS NO.	HAZARDOUS AIR POLLUTANT
EMISSION EXPECTED ACTUAL EMISSIONS AFTER CONTRO EMISSION FACTOR Ib/hr Ib/day				T	n Calculation	See Emissio		
EMISSION EXPECTED ACTUAL EMISSIONS AFTER CONTRO EMISSION FACTOR Ib/hr Ib/day								
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EMISSION EXPECTED ACTUAL EMISSIONS AFTER CONTRO EMISSION FACTOR Ib/hr Ib/day		RCE	THIS SOU	ATION FOR	S INFORM	EMISSION	LITANT	
EMISSION EACTOR Ib/hr Ib/day	OLS / LIMITATION	AFTER CONT		OTED ACTUA	EXPE	ISOURCE OF	T	TOXIC AIR PO
CAS NO. FACTOR Ib/hr Ib/day				CTED ACTUA	EXPE			
See Emission Calculations in Appendix C	lb/yr	day	N			FACTOR	CAS NO.	TOYIC AIR POLLUTANT
			xC	ns in Appendi	n Calculation	See Emissio	1	
							1	
					1			
Attackments: (1) amissions calculations and supporting documentation; (2) indicate all requested state and federal enforceable permit limits (e.g. hours of operation, e								

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Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and rederat entorceable permitting the source. how these are monitored and with what frequency: and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE Attach Additional Sheets As Necessary

	FORM B2
EMISSION SOURCE (INTERNAL	COMBUSTION ENGINES/TURBINES/GENERATORS)

		NCDEQ/Division of A		Application for Ai	Permit to	Construct/Operate		B2
REVISED 09/22	2/16 URCE DESCRIPTION: E	NCDEQ/Division of A	ar Quality	- Application for A	EMISSIO	N SOURCE ID NO: IES-	EG	
EMISSION SOL	URCE DESCRIPTION: E	mergency Generator (	So prib)			L DEVICE ID NO(S): N//		
		1 OF	1		EMISSIO	N POINT (STACK) ID NO	(S): EP-13	
OPERATING S		EMERGENCY	_	PACE HEAT		LECTRICAL GENERATIO		
ENGINE SERV				THER (DESCRIBE):				
(CHECK ALL T		PEAK SHAVER	ANTICIPA	TED ACTUAL HOUR	S OF OPE	RATION (HRS/YR):		
GENERATOR	OUTPUT (KW):		Aution					
ENGINE OUTF			ENGINE	UP TO 600 HI DIESE	L ENGINE	GREATER THAN 600 H	DUAL	FUEL ENGINE
TYPE ICE:	GASOLINE EN	and the second se	EROUTE	01 10 000 110 000		complete below)	and an and a set	
	OTHER (DESC			1/A	1			
ENGINE TYPE						HAMBER COMBUSTION	OTHE	R
EMISSION RE	DUCTION MODIFICATIO			NG RETARD PREIC	INITION C	PRESSOR OR TURBINE	(complete below)	
OR	STATIONARY GAS TU	RBINE (complete below)				4-CYCLE	LEAN TURB	INF
FUEL:	NATURAL GAS	OIL	ENGINE .	TYPE: 2-CYCLE LEA				
	OTHER (DESCRIBE):_			4-CYCLE RIC		- ,	DESCRIBE):	
CYCLE:	COGENERATI	ON SIMPLE	CONTRO	LS: COMBUSTIO	N MODIFIC	ATIONS (DESCRIBE):		UCTION
0.0	REGENERATI	VE COMBINED	NONS	SELECTIVE CATALY	TIC REDU		VE CATALYTIC RED	UCTION
CONTROLS:		R-STEAM INJECTION	CLEA	N BURN AND PREC	OMBUSTI	ON CHAMBER U	NCONTROLLED	
	NTROLLED	LEAN-PREMIX						
OTHE	R (SPECIFY):	FUEL US	GE (IN	CLUDE STARTU	P/BACK	(UP FUEL)		
		TOLLOU		MAXIMUM DES	IGN	REQU	ESTED CAPACITY	
	FUEL TYPE	UNITS		CAPACITY (UNIT	T/HR)	LIMIT	ATION (UNIT/HR)	
No. 2 Fuel Oil		gal		31.9			31.9	
140. 21 40. 01								
1.1.1.1.1.2		FUEL CHARACTER	ISTICS	(COMPLETE AL	LIHAI	ARE APPLICABLE	JLFUR CONTENT	
							6 BY WEIGHT)	
	FUEL TYPE	BTU/UNIT		UNITS		(/	<15 ppmw	
No. 2 Fuel Oi		19,300		lb			ale ppint	
		MANUEACTURED	C CDEC	TEIC EMISSION	FACTO	RS (IF AVAILABLE)		
0 h 1		NOX	I CC	PM PM	T AGE OF	PM10	VOC	OTHER
	POLLUTANT	NUA						
	IN FACTOR LB/UNIT							
DEDODUDE M	CTUODO TO MINUNUTE	VISIBLE EMISSIONS DI	IRING IDL	ING. OR LOW LOAD	OPERATI	ONS:		
DESCRIBE M	ETHODS TO WINNINZC	I minimize onacity by f	llowing π	nanufacturers speci	fication or	common industry pract	ices.	
Periodic equ	ipment mantenance wi	the second se						
1								
COMMENTS								
1								
			1. A .I .!	Hanal Shoots	An Non	000070		

Attach Additional Sheets As Necessary

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			FOR					•	
SP	ECIFIC EMISSION	SOURCE	INFORM/	TION (R	EQUIRED	FOR ALL	SOURCE	S)	в
REVISED 09/22/16			FAir Quality -	Application to	r Air Permit to	LIDOE ID NO:	IES SWD		
EMISSION SOURCE DESCRIP	PTION: Fire Water Pump (131	bhp)			CONTROL DE				
	1 OF	1			EMISSION PO	INT (STACK)	D NO(S): EP-14	4	
OPERATING SCENARIO DESCRIBE IN DETAILTHE EN	ISSION SOURCE PROCESS	ATTACH FLO	W DIAGRAM	:					
Diesel-fired internal combust	ion pump to provlde water i	n case of an er	nergency.						
Tì	PE OF EMISSION SOURCE	(CHECK AND	COMPLETE A	PPROPRIATE	FORM B1-B9 C	IN THE FOLLO	OWING PAGES	5): 	
Coal,wood,oil, gas, other bu	urner (Form B1)		Woodworki	ng (Form B4)			f chemicals/coa	tings/inks (For	т в7)
Int.combustion engine/gene			Coating/fini	shing/printing	(Form B5)	Incinerati	ion (Form B8)		
Liquid storage tanks (Form			Storage sile	os/bins (Form I	B6)	Other (Fo	orm B9)		
				DATE MANUE	ACTURED:				
START CONSTRUCTION DAT MANUFACTURER / MODEL N	C: Xylem Inc. 10x8x17F - 8	100 Series			P. SCHEDULE:				K/YR
IS THIS SOURCE SUBJECT T	0? / NSPS (	SUBPARTS?):_			NESHAP (SU	IBPARTS?):	MACT	(SUBPART):	7777
PERCENTAGE ANNUAL THR	OUGHPUT (%): DEC-FEB 2 CRITERIA AIR	5% MAR-MA	Y 25% JUN-	AUG 25%	SEP-NOV 25%	THIS SOUL	RCE		
	CRITERIA AIR	OLLOTAN	SOURCE OF	EXPECTS	DACTUAL		POTENTIAL	EMISSIONS	
			EMISSION		ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CON	TROLS / LIMITS)
			FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
AIR POLLUTANT EMITTED PARTICULATE MATTER (PM)	V.		See Emission		in Appendix C				
PARTICULATE MATTER (PM)									
PARTICULATE MATTER<2.5 M	MICRONS (PM								
SULFUR DIOXIDE (SO2)									
NITROGEN OXIDES (NOx)									+
CARBON MONOXIDE (CO)									
VOLATILE ORGANIC COMPO	DUNDS (VOC)						-		
LEAD									
OTHER	HAZARDOUS AI	POLLUTA	NT EMISSI	ONS INFOR	MATION FO	R THIS SO	URCE	A 194	
	TIAZANDOOOTA		SOURCE OF	EXPECT	ED ACTUAL		PUTENTIAL	L EMISSIONS	
1		1	EMISSION	(AFTER CON	TROLS / LIMITS)		TROLS / LIMITS)		TROLS / LIMITS)
HAZARDOUS AIR POLLUTA	NT	CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
			See Emission	Calculations	in Appendix C				+
									+
					-				
						1		-	
CONTRACTOR INCOME.	TOXIC AIR P	OLLUTANT	EMISSION	S INFORMA	ATION FOR	THIS SOUR	CE		
			EMISSION	EX	PECTED ACTU	L EMISSIONS	AFTER CONT		
TOXIC AIR POLLUTANT		CAS NO.	FACTOR		b/hr		/day		lb/yr
			See Emission	n Calculations	s in Appendix C				
Attachments: (1) emissions calcul	ations and supporting documentat	ion; (2) indicate a	Il requested state	and federal enf	orceable permit lin	nits (e.g. hours of	operation, emissi	ion rates) and de	scribe how these

are monitored and with what frequency; and (3) describe any monitoring devices. gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE Attach Additional Sheets As Necessary

### FORM B2 EMISSION SOURCE (INTERNAL COMBUSTION ENGINES/TURBINES/GENERATORS)

		to Out 1997 A shall a	ation for Air Darmit to	Construct/Operate		B2
REVISED 09/22/16	NCDEQ/Division of A	ir quality - Applic	FMISS	ON SOURCE ID NO: IES	-FWP	
EMISSION SOURCE DESCRIPTION: 1	Fire Water Pump (131 bri	p)	CONTR	ROL DEVICE ID NO(S): N	/A	
	1 OF	1		ON POINT (STACK) ID N		
OPERATING SCENARIO:	strength in the second se	SPACE HEA		ELECTRICAL GENERAT		
	EMERGENCY					
(CHECK ALL THAT APPLY)	PEAK SHAVER	OTHER (DE	UAL HOURS OF OPE	RATION (HRS/YR):		
GENERATOR OUTPUT (KW):	A	NIIGPATED AGT	UAL HOURS OF OFE	to the office of		
ENGINE OUTPUT (HP):		NONE UP TO SO	OUD DIESEL ENGIN	E GREATER THAN 600 H	IP DUAL	FUEL ENGINE
TYPE ICE: GASOLINE EN	the second se	ENGINE OF TO U		(complete below)		
OTHER (DESC	RIBE);			Contraction of the second of the second s	*	
ENGINE TYPE RICH E		IRN N/A		CHAMBER COMBUSTIO	N OTHE	R
EMISSION REDUCTION MODIFICATIO		ON TIMING RETAR				
OR STATIONARY GAS TU	RBINE (complete below)			RESSOR OR TURBINE (C 4-CYCLE	I FAN TURB	INE
FUEL: NATURAL GAS	OIL		YCLE LEAN BURN			
OTHER (DESCRIBE):_			YCLE RICH BURN		DESCRIBE):	
CYCLE: COGENERATI	ON SIMPLE	CONTROLS: CO	MBUSTION MODIFIC/	ATIONS (DESCRIBE):		U IOTION
REGENERATI		NONSELECTIV	E CATALYTIC REDUC		IVE CATALYTIC RED	UCTION
	R-STEAM INJECTION	CLEAN BURN A	ND PRECOMBUSTIC	N CHAMBER L	JNCONTROLLED	
UNCONTROLLED	LEAN-PREMIX					
OTHER (SPECIFY):						
OTHER (SPECIFT).	FUEL US/	GE (INCLUDE	STARTUP/BACI	KUP FUEL		
		MAX	(IMUM DESIGN	REQU	JESTED CAPACITY	
FUEL TYPE	UNITS	CAP	ACITY (UNIT/HR)	LIMI	TATION (UNIT/HR)	
No. 2 Fuel Oil	gal		10.6		10.6	
10. 21 401 01						
				ADE ADDUICADIE		
	FUEL CHARACTER	ISTICS (COM	LEIEALL IMA	ARE APPLICABLE	ULFUR CONTENT	
			UNITS		% BY WEIGHT)	
FUEL TYPE	BTU/UNIT		lb	1	<15 ppmw	
No. 2 Fuel Oil	19,300		10			
	MANUEACTURER	S SPECIFIC E	MISSION FACTO	RS (IF AVAILABLE		
POLLUTANT	NOX	CO	PM	PM10	VOC	OTHER
EMISSION FACTOR LB/UNIT	HUX					
LINUT						
DEPODE METHODS TO MINIMIZE	VISIBLE EMISSIONS DU	RING IDLING, OR	LOW LOAD OPERATI	ONS:		
Periodic equipment maintenance wi	Il minimize opacity by fo	lowing manufact	rers specification or	common industry practi	ces.	
i enoure equipment internet						

COMMENTS:

### FORM B

### SPECIFIC EMISSION SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

	EO/Division of	Air Quality - A	polication fo	r Air Permit t	o Construct/	Operate		В
REVISED 09/22/16 NCDEQ/Division of Air Quality - Application f EMISSION SOURCE DESCRIPTION: Pellet Sampling Transfer Bin				EMISSION SOURCE ID NO: ES-PSTB				
				CONTROL DEVICE ID NO(S): CD-DC-BV3				
OPERATING SCENARIO 1 OF 1			EMISSION POINT (STACK) ID NO(S): EP-21					
OPERATING SCENARIO1C DESCRIBE IN DETAILTHE EMISSION SOURCE P			GRAM).	Linooron	0	· · · · · · · · · · · · · · · · · · ·		
DESCRIBE IN DETAIL THE EMISSION SOURCE P Sized wood from the hammermills is transported	RUCESS (ATTA		d the collet s	ampling tran	sfer bin nrio	to pelletizatio	и.	
Sized wood from the hammermills is transported	to the pellet mi	Il teed silo and	a the peners	amping can	aler bill prior	to poliociantio		
TYPE OF EMISSION SOURC				FORM B1 B	ON THE EC	ULLOWING PA	GES):	
TYPE OF EMISSION SOURCE			In Com P		Manuf	of chemicals/c	oatings/inks (	Form B7)
Coal,wood,oil, gas, other burner (Form B1)	_		king (Form B4			ation (Form B8		
Int.combustion engine/generator (Form B2)	<u> </u>		hishing/printin			Form B9)	/	
Liquid storage tanks (Form B3)	7	Storage s	DATE MANU		Ottion	ronn boy		
START CONSTRUCTION DATE:			DATE MANU	OP. SCHEDU	E 24 HE	DAY 7	DAY/WK 52	WK/YR
MANUFACTURER / MODEL NO .:			EXPECTED	UP. SCHEDU	AP (SUBPAF		<u></u>	
IS THIS SOURCE SUBJECT TO?	SPS (SUBPARTS	5?):	INTEL ALLO			(101).		
PERCENTAGE ANNUAL THROUGHPUT (%): DEC	-FEB 25% M	AR-MAY 25%	JUN-AUG	23% SEP-	DR THIS SI	OURCE		
CRITERIA AIR	POLLUTAN	I EMISSION	13 INFURI	ATIONIC	it most	POTENITIAL	EMISSIONS	
		SOURCE OF		DACTUAL			(AFTED CONT	ROLS / LIMITS)
		EMISSION		ROLS / LIMITS)		TROLS / LIMITS)	lb/hr	tons/yr
AIR POLLUTANT EMITTED		FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	10/11	tonory
PARTICULATE MATTER (PM)		See Emissio	n Calculatio	ns in Appendi	xC			
PARTICULATE MATTER<10 MICRONS (PM10)								
PARTICULATE MATTER<2.5 MICRONS (PM2.5)								
SULFUR DIOXIDE (SO2)								
NITROGEN OXIDES (NOx)								
CARBON MONOXIDE (CO)								
VOLATILE ORGANIC COMPOUNDS (VOC)								
LEAD								
OTHER						DOUDOF		
HAZARDOUS A	IR POLLUTA	NT EMISSI	ONS INFO	RMATION	FOR THIS	SUURLE	THIONIONS	
		SOURCE OF	EXPECTE	D ACTUAL			EMISSIONS	
		EMISSION		TROLS / LIMITS)		NTROLS / LIMITS)		ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT	CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
N/A								
						UDOF		1
TOXIC AIR I	POLLUTANT	EMISSIONS	S INFORM	ATION FOR	THIS SO	URCE		
		SOURCE	FXPF	CTED ACTUA	EMISSIONS	AFTER CONT	ROLS / LIMI	TATIONS
		OF						
TOXIC AIR POLLUTANT	CAS NO.	EMISSION	lb/hr		lb/day		lb/yr	
N/A								
			0					
								antes) c = d
Attachments: (1) emissions calculations and supporting do	cumentation; (2) in	dicate all request	ed state and fe	deral enforceable	e permit limits (	e.g. hours of oper	ation, emission	rates) and

describe how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source. COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE Attach Additional Sheets As Necessary

### FORM B6 EMISSION SOURCE (STORAGE SILO/BINS)

Π

		of Air Quality - App			onstruct/Operate	<b>B6</b>		
				EMISSION SC	OURCE ID NO: ES-PSTB			
EMISSION SOURCE DESCRIPTION: Pellet Sampling Transfer Bin				CONTROL DE				
	1	OF 1			DINT(STACK) ID NO(S): EP-21			
OPERATING SCENARIO: DESCRIBE IN DETAIL THE PROCESS (	_							
Sized wood from the hammermills is t	ransporte	d to the pellet mill fe	ed silo	and the pellet sam	pling transfer bin prior to pelletiza	tion.		
MATERIAL STORED: Fine pellet mate	rial			DENSITY OF MATE	RIAL (LB/FT3): 40			
CAPACITY CUBIC FE				TONS:				
DIMENSIONS (FEET) HEIGHT:		DIAMETER: 12		LENGTH:	WIDTH: HEIGHT:			
ANNUAL PRODUCT THROUGHPUT	(TONS)	ACTUAL:		MAXIMUM DI	ESIGN CAPACITY: 6 tph			
PNEUMATICALLY FILLED		MECHANICA	LLY F	ILLED	FILLED FROM	Щ. 2		
BLOWER     COMPRESSOR     OTHER:     NO. FILL TUBES:     MAXIMUM ACFM:     MATERIAL IS UNLOADED TO:     BY WHAT METHOD IS MATERIAL UNL	OADED F	SCREW CONVEYOR BELT CONVEYOR BUCKET ELEVATOF OTHER:			RAILCAR         TRUCK         STORAGE PILE         OTHER: Conveyor			
MAXIMUM DESIGN FILLING RATE OF	MATERIA	L (TONS/HR): 105						
MAXIMUM DESIGN UNLOADING RAT	E OF MAT	ERIAL (TONS/HR): 10	5					
COMMENTS:								
	Δ	ttach Additiona	I She	ets As Necess	ary			

	FORM	/ C1	
NTROL	DEVICE	(FABRIC	FILTER

		ITROL DEVICE (FABRIC FI				-
REVISED 09/22/16	NCDEQ/Divisio	on of Air Quality - Application for Air Per	mit to Constru	uct/Operate		(
CONTROL DEVICE ID NO: CD-DC-BV3	CONTROLS EM	IISSIONS FROM WHICH EMISSION SOU	RCE ID NO(S)	ES-PSTB		
EMISSION POINT (STACK) ID NO(S): EP-21	POSITION IN SE	ERIES OF CONTROLS		NO.	1 OF	1 UNITS
OPERATING SCENARIO:						
1OF1	P.E. SEAL REQUIRED (PER 2q.0112)?		L_``	/ES	V NO	
DESCRIBE CONTROL SYSTEM: A bin vent filter is used to create a slight negative pre- to offset the air displacement created by the material (	ssure on the Pelle feed to the silo.	t Sampling Transfer Bin. The bin vent co	ollects dust fr	om the air volum	e present in the sile	o. The bin vent is siz
POLLUTANTS COLLECTED:		PM	PM-10	PM-2.5	1 <u>2</u>	
BEFORE CONTROL EMISSION RATE (LB/HR):		See calculation in Appendix C				
CAPTURE EFFICIENCY:		~ <b>99.9</b> %	~99.9	% ~99.9	<i></i>	%
CONTROL DEVICE EFFICIENCY:						
CORRESPONDING OVERALL EFFICIENCY:		%		_%	/o	%
EFFICIENCY DETERMINATION CODE:						
TOTAL AFTER CONTROL EMISSION RATE (LB/HR):		See calculation in Appendix C				
PRESSURE DROP (IN H20): MIN: MAX: 6"	GAUGE?	YES V	NO			
BULK PARTICLE DENSITY (LB/FT): 1.43E-05	Choire	INLET TEMPERATURE (°F): Ambient				
POLLUTANT LOADING RATE: 0.004	GR/FT <sup>3</sup>	OUTLET TEMPERATURE (°F) Ambient				
INLET AIR FLOW RATE (ACFM): 1,000		FILTER OPERATING TEMP (F): N/A		LENGTH OF BA	G (INI ): 120	
	BAGS PER COMPA			DIAMETER OF I		
	AIR TO CLOTH	ER CARTRIDGE (FT <sup>2</sup> ):		DIANETEROT	140 (14.). 0.070	
TOTAL FILTER SURFACE AREA (FT <sup>2</sup> ): 377 DRAFT TYPE: INDUCED/NEGATIVE	-		FILTER MAT	FRIAL IN	WOVEN V	FELTED
DESCRIBE CLEANING PROCEDURES:	TOROLDHOOL		, igital (in the second s		ARTICLE SIZE DIS	RIBUTION
	SONIC			SIZE	WEIGHT %	CUMULATIVE
AIR PULSE	SIMPLE BAG C	OLLAPSE		(MICRONS)	OF TOTAL	%
	RING BAG COL			0-1		hnown
	NING DAG GOL			1-10		
DESCRIBE INCOMING AIR STREAM:				10-25		
The air stream contains wood dust particules.				25-50		
				50-100		
				>100		
					TOT	FAL = 100
ON A SEPARATE PAGE, ATTACH A DIAGRAM SHOWI	NG THE RELATION	NSHIP OF THE CONTROL DEVICE TO IT	S EMISSION S	OURCE(S):		
COMMENTS:						