Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Regional Director

STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE
This permit supersedes the State Major permit document dated January 6, 2015.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Enviva LP
7200 Wisconsin Avenue – Suite 1100
Bethesda, Maryland 20814
Registration No.: 61653

is authorized to construct and operate:

a wood pellet manufacturing facility

located at

26570 Rose Valley Road
Franklin, Virginia

in accordance with the Conditions of this permit.

Approved on: **November 18, 2019**.

Craig R. Nicol

Permit consists of 35 pages.
Permit Conditions 1 to 82.

INTRODUCTION

This permit document is based on and combines permit terms and conditions in accordance with 9VAC5-80-1255 from the following permit approvals and the respective permit applications:

> The NSR permit document dated January 6, 2015, based on the permit applications dated April 5, 2012, July 8, 2014, and application amendments dated April 25, 2012, April 27, 2012, June 8, 2012, August 14, 2012, and May 7, 2013, July 10, 2013, July 23, 2013, October 28, 2013, November 20, 2013, June 24, 2014, June 27, 2014, July 16, 2014, August 21, 2014, September 11, 2014, October 16, 2014;
>
> The SOP and NSR permit application dated September 28, 2018, including application amendments dated December 21, 2018, March 22, 2019, April 11, 2019, May 22, 2019, and October 11, 2019.

Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action. In addition, this facility may be subject to additional applicable requirements not listed in this permit.

Words or terms used in this permit shall have meanings as provided in 9VAC5-10-10 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition. The most recent effective date for a term or condition is listed in brackets [ ]. When identical conditions on approval for an emission unit or units are combined, the effective date listed in this permit does not alter the prior effective date(s) for any such conditions as issued in a previous permit approval. In accordance with 9VAC5-80-1120(F), any condition not marked as state-only enforceable (SOE) is state and federally enforceable.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9VAC5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

Equipment List - Equipment at this facility covered by this permit consists of:

Raw Material Receiving and Processing Yard Operations

Unit Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
ES-DEBARK	Debarking operations of truck-delivered green wood logs using an electric-powered debarker	105 ODT/hr	None
ES-CHIP	Wood chipping operations of green debarked logs using an electric-powered wood chipper	59.7 ODT/hr	None
ES-BARK	Bark processing operations using a bark hog	105 ODT/hr	None
ES-GWHS	Green wood chip/bark fuel handling operations Green wood chip and bark fuel storage piles Screener for truck-delivered pre-chipped wood	109 ODT/hr	None
ES-GHM-1 thru 5	Green wood chip resizing operations using five electric-powered hammermills Exhaust from hammermills routed to existing WESP and new RTO	150 ODT/hr	None

Rotary Drum Wood Chip Dryer and Wood-Fired Furnace Operations:

Unit Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
IES-BFB-2	Bark/wood fuel bin	105 ODT/hr	None
ES-FURNACE-1	Wood-fired furnace	175.3 MMBtu/hr	None
ES-FURNACE-2	Wood-fired furnace	180.0 MMBtu/hr	None
ES-DRYER-1	Single pass rotary drum direct-heated wood chip dryer	70.83 ODT/hr	None
CD-RTO-1	Regenerative thermal oxidizer to control emissions from furnace-1/dryer-1 and green wood chip hammermills	32.0 MMBtu/hr	None
ES-DRYER-2	Single pass rotary drum direct-heated wood chip dryer	82.10 ODT/hr	None
CD-RTO-2	Regenerative thermal oxidizer to control emissions from furnace-2/dryer-2 and green wood chip hammermills	32.0 MMBtu/hr	None
ES-DDB-1 & 2	Two - NG/Propane-fired double duct burners to supply heat to dryer line-1 system ductwork	1 MMBtu/hr (each)	None
ES-DDB-3 & 4	Two - NG/Propane-fired double duct burners to supply heat to dryer line-2 system ductwork	1 MMBtu/hr (each)	None

Dried Wood Processing Operations

Unit Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
ES-DWH	Dried wood chip material handling, two dry wood chip screens, and conveyance transfer system from the wood chip dryers to either the ES-DHM dry hammermills or the pellet mill feed silo and from the dry hammermills to the pellet mill feed silo	153 ODT/hr	None
ES-PMFS	Pellet mill feed silo	153 ODT/hr	None
ES-DHM-1 thru 9	Nine - Dry wood chip hammermills operating in parallel	144 ODT/hr	None
ES-DHMA	Dry Hammermill area	144 ODT/hr	None

Unit Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
ES-PP	Wood pellet press system consisting of twelve wood pellet presses with discharge conveyance transfer system to pellet coolers	144 ODT/hr	None
ES-CLR-1 thru 6	Six - Wood pellet coolers	144 ODT/hr	None
ES-ADD	Bulk additive handling and storage silo	22.5 tons/hr	None
ES-PCHP	Pellet cooler HP fines relay system for fine pellet material from pellet coolers, one pellet screener, and finished product handling operations	8,760 hrs/yr	None

Finished Wood Pellet Storage and Shipping Operations

Unit Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
ES-FPH	Finished product handling, including four finished wood pellet load-out storage bins	153 ODT/hr	None
ES-TL	Transport truck loadout of finished wood pellets	153 ODT/hr	None

Ancillary Equipment (referenced in the permit)

Unit Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements
ES-EG	Emergency electrical generator – Diesel	350 BHP	NSPS Subpart IIII
ES-FWP	Emergency fire-water pump - Diesel	300 BHP	NSPS Subpart IIII

Air Pollution Control Devices

Unit Reference Nos. (URN)	Pollution Control Device (URN)	Pollutants Controlled	Monitoring Instrumentation
ES-GHM-1 thru 5	*Option 1* CD-WESP-1; CD-RTO-1 *Option 2* CD-WESP-2; CD-RTO-2	VOC, HAP, and TAP	Temperature, Data Acquisition System
ES-DWH (handling) ES-DWH (screeners)	CD-DWH-BF (Baghouse)	Particulates	Differential Pressure Drop
ES-PMFS	CD-PMFS-BV (Bin Vent Filter)	Particulates	---
ES-DHM-1 thru 9	CD-DHM-BF-1 thru 3; CD-WS-1; CD-RCO/RTO-3	Particulates, VOC, HAP, and TAP	Differential Pressure Drop, Water Flow Rate, Temperature, Data Acquisition System
ES-DHMA	CD-DHM-BF-3; CD-WS-1; CD-RCO/RTO-3	Particulates, VOC, HAP, and TAP	Differential Pressure Drop, Water Flow Rate, Temperature, Data Acquisition System
ES-PP ES-CLR-1 thru 6	CD-WS-2; CD-RCO/RTO-4	VOC, HAP, and TAP	Water Flow Rate, Temperature, Data Acquisition System
ES-PCHP	CD-PCHP-BF (Baghouse)	Particulates	Differential Pressure Drop
ES-ADD	CD-ADD-BF (Baghouse)	Particulates	Differential Pressure Drop
ES-TL ES-FPH	CD-FPH-BF (Baghouse)	Particulates	Differential Pressure Drop
ES-DRYER-1	CD-WESP-1; CD-RTO-1; CD-SNCR-1	Particulates, VOC, HAP, TAP, NOx	Temperature, Data Acquisition System
ES-DRYER-2	CD-WESP-2; CD-RTO-2	Particulates, VOC, HAP, and TAP	Temperature, Data Acquisition System

Specifications included in the above tables are for informational purposes only and do not form enforceable terms or conditions of the permit.

Glossary:

ADD - Additive Storage Silo and Handling

BF - Bag Filter (Baghouse)

BV – Bin Vent (Baghouse)

CLR - Pellet Cooler

DHM - Dry Hammer Mill

DHMA – Dry Hammermill Area

FPH - Finished Product Handing

GHM - Green Hammer Mill

HAP – Hazardous Air Pollutant

HP Fines – High Pressure Fines

PCHP - Pellet Cooler HP Fines Relay System

PMFS - Pellet Mill Feed Silo

PP - Pellet Press

RCO - Regenerative Catalytic Oxidizer

RTO - Regenerative Thermal Oxidizer

SNCR - Selective Non-Catalytic Reduction

TAP - Toxic Air Pollutant

TL - Truck Loadout

WESP - Wet Electrostatic Precipitator

WS - Wet Scrubber

PROCESS REQUIREMENTS

1. Rotary Drum Wood Chip Dryers and Wood-Fired Furnaces - The permittee is authorized to operate two single-pass rotary drum wood chip dryers (URN ES-DRYER-1 and URN ES-DRYER-2) rated at a maximum capacity of 70.83 oven-dry tons (ODT) per hour and 82.10 ODT per hour, respectively. Each wood chip dryer shall use direct contact heat provided by a wood-fired furnace (URN ES-FURNACE-1 or URN ES-FURNACE-2) rated at a maximum heat input capacity of 175.3 MMBtu/hr and 180.0 MMBtu/hr, respectively. At all times, the permittee shall, to the maximum extent practicable, maintain and operate the dryers and furnaces in a manner consistent with good air pollution control practices. (9VAC5-80-1180) [November 18, 2019]

2. Emission Controls - Work practices and control methods used to minimize particulate emissions from the green wood handling and storage area (URN ES-GWHS), bark hog (URN ES-BARK), green wood log debarker (URN ES-DEBARK), and log chipper (URN ES-CHIP) operations shall include, but not be limited to the following:

   a. Except for wood material drops to piles, covered conveyance systems for chipped wood and bark material and the material feed transfer from the raw green wood storage piles to the wood chip dryers (URN ES-DRYER-1 and URN ES-DRYER-2);

   b. Water suppression and partial enclosure for the green wood log debarker;

   c. Partial enclosure for the bark hog; and

   d. Water suppression and partial enclosure for the log chipper.

   The work practices and control methods referenced above shall be provided with adequate access for inspection and shall be in operation when the respective processes are operating. The permittee shall maintain the work practices and control methods in good working order and operate each in a manner consistent with good air pollution control practices. (9VAC5-80-1180) [November 18, 2019]

3. Emission Controls - Emissions from the green wood hammermills (URN ES-GHM-1 through URN ES-GHM-5) shall be controlled by one of the two following options:

   Option 1: Emissions shall be controlled by:

   a. Wet electrostatic precipitator (WESP) (URN CD-WESP-1) for particulate emissions;

   b. RTO (URN CD-RTO-1) for VOC and HAP emissions.

   Option 2: Emissions shall be controlled by:

   c. WESP (URN CD-WESP-2) for particulate emissions;

   d. RTO (URN CD-RTO-2) for VOC and HAP emissions.

   Each pollution control device shall be provided with adequate access for inspection and the respective Option 1 or 2 pollution control devices shall be in operation when the green wood hammermills (URN ES-GHM-1 through URN ES-GHM-5) are operating. The

permittee shall maintain the devices in good working order and operate each in a manner consistent with good air pollution control practices.
(9VAC5-80-1180 and 9VAC5-50-260) [November 18, 2019]

4. Emission Controls - Emissions from each wood-fired furnace/wood chip dryer combination (URN ES-FURNACE-1/ES-DRYER-1 and URN ES-FURNACE-2/ES-DRYER-2) shall be controlled by:

   a. WESP (URN CD-WESP-1 and URN CD-WESP-2) for particulate emissions; and

   b. RTOs (URN CD-RTO-1 and URN CD-RTO-2) for VOC and HAP emissions.

   Each pollution control device shall be provided with adequate access for inspection and shall be in operation when the associated wood chip dryer is in use. The permittee shall maintain the devices in good working order and operate each in a manner consistent with good air pollution control practices.
   (9VAC5-80-1180 and 9VAC5-50-260) [November 18, 2019]

5. Emission Controls - Sulfur dioxide (SO_2) emissions in the heated exhaust gas stream from the wood dryer (URN ES-DRYER-1) shall be minimized by the use of clean wood bark, wood shavings/residue, and wood chips.
   (9VAC5-80-1180) (January 6, 2015 State Major permit)

6. Emission Controls - Nitrogen oxide (NOx) emissions from the wood-fired furnace (URN ES-FURNACE-1) used by the wood chip dryer (URN ES-DRYER-1) shall be controlled by a selective non-catalytic reduction (SNCR) system (URN CD-SNCR-1) that injects an aqueous urea based reagent into the post-combustion flue gas stream from the wood-fired furnace at sufficient rates to continuously comply with the hourly NOx emission limit specified in this permit. The injection of the reagent into the flue gas stream shall be at a suitable location that satisfactorily meets the combustion gas temperature range requirement for effective NOx emission reduction. The SNCR system shall be brought on-line in accordance with the SNCR manufacturer's procedures and recommendations for proper operation of the system. The SNCR shall be provided with adequate access for inspection and remain in operation at all times when the wood-fired furnace is operating, except for periods of start-up, shutdown, and malfunction.
   (9VAC5-80-1180 and 9VAC5-50-260) (January 6, 2015 State Major permit)

7. Emission Controls - Particulate emissions from the following dried wood handling equipment and operations shall be controlled by the following pollution control devices:

   a. Dry hammermill screeners and the dry wood handling operations (URN ES-DWH) controlled by a baghouse (URN CD-DWH-BF);

   b. Pellet cooler HP fines relay system, including one wood pellet screener (URN ES-PCHP) controlled by a baghouse (URN CD-PCHP-BF); and

   c. Finished product handling and storage (URN ES-FPH) controlled by a baghouse (URN CD-FPH-BF).

Each pollution control device shall be provided with adequate access for inspection and shall be in use when the associated operation or equipment is operating. The devices shall be maintained in good working order and be operated in a manner consistent with good air pollution control practices.
(9VAC5-80-1180 and 9VAC5-50-260) [November 18, 2019]

8. Emission Controls - Particulate emissions from the pellet mill feed silo (URN ES-PMFS) shall be controlled by a bin vent filter (URN CD-PMFS-BV). The bin vent filter shall be provided with adequate access for inspection and shall be in operation when the pellet mill feed silo is operating. The permittee shall maintain the bin vent filter in good working order and operate the bin vent filter in a manner consistent with good air pollution control practices.
(9VAC5-80-1180 and 9VAC5-50-260) [November 18, 2019]

9. Emission Controls - Emissions from the dry hammermill area (URN ES-DHMA) and the dried wood chip hammermills (URN ES-DHM-1 through URN ES-DHM-9) shall be controlled by the following pollution control devices:

   a. Three baghouses (URN CD-DHM-BF-1 through URN CD-DHM-BF-3) for particulate emissions;

   b. Wet scrubber (URN CD-WS-1) for particulate emissions; and

   c. RCO/RTO (URN CD-RCO/RTO-3) for VOC and HAP emissions.

   Each pollution control device shall be provided with adequate access for inspection and shall be in use when the associated dry wood chip hammermills are operating. The devices shall be maintained in good working order and be operated in a manner consistent with good air pollution control practices.
   (9VAC5-80-1180 and 9VAC5-50-260) [November 18, 2019]

10. Emission Controls - Emissions from the wood pellet press system (URN ES-PP) and wood pellet coolers (URN ES-CLR-1 through URN ES-CLR-6) shall be controlled by the following pollution control devices:

    a. Wet scrubber (URN CD-WS-2) for particulate emissions; and

    b. RCO/RTO (URN CD-RCO/RTO-4) for VOC and HAP emissions.

    Each pollution control device shall be provided with adequate access for inspection and shall be in use when the wood pellet press system and wood pellet coolers are operating. The devices shall be maintained in good working order and be operated in a manner consistent with good air pollution control practices.
    (9VAC5-80-1180 and 9VAC5-50-260) [November 18, 2019]

11. Emission Controls - Particulate emissions from the loadout of finished wood pellet product into transport trucks at the truck loadout station (URN ES-TL) shall be controlled by:

    a. The Finished Product Handling and Loadout baghouse (URN CD-FPH-BF);

b. Telescoping flexible chutes to load finished wood pellet product into transport trailer cargo holds;

c. The transport truck loadout building shall be equipped with a fabric filtration system that maintains a negative pressure at the pellet conveyors and the transport truck being loaded;

d. The open top of loaded transport trailers to be covered with full enclosure tarps; and

e. Spilled wood pellets from transport trailer loading activities shall be cleaned-up as soon as practicable.

Each pollution control device shall be provided with adequate access for inspection and shall be in use when the associated operations are occurring. The pollution control device shall be maintained in good working order and be operated in a manner consistent with good air pollution control practices.
(9VAC5-80-1180 and 9VAC5-50-260) [November 18, 2019]

12. Emission Controls - Particulate emissions from the pneumatic loading of bulk dry powder additive into the storage silo (URN ES-ADD) shall be controlled by a baghouse (URN CD-ADD-BF). The pollution control device shall be provided with adequate access for inspection and shall be in use when the bulk dry powder additive loading operations are occurring. The pollution control device shall be maintained in good working order and be operated in a manner consistent with good air pollution control practices.
(9VAC5-80-1180 and 9VAC5-50-260) [November 18, 2019]

13. Fugitive Dust and Fugitive Emission Controls - Fugitive dust and fugitive emission controls shall include the following, or equivalent, as approved by DEQ:
    a. Application of asphalt, water, or suitable chemicals on dirt roads and other surfaces which may create airborne dust; paving of roadways, and maintenance of roadways in a clean condition;
    b. Prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion;
    c. Reasonable precautions and measures shall be taken to prevent deposition of dirt on public roads and subsequent dust emissions. Dirt, product, or raw material spilled or tracked onto paved surfaces shall be promptly removed to prevent the material from becoming airborne;
    d. Reasonable precautions and measures shall be taken to control fugitive dust resulting from any outdoor wood de-barking and/or chipping operations; and
    e. Reasonable precautions and measures shall be taken to control fugitive dust resulting from wood material deliveries, handling, and/or loadout operations.

    (9VAC5-50-90, 9VAC5-80-1180, and 9VAC5-50-260) (January 6, 2015 State Major permit)

14. Monitoring Device - Each fabric filter (baghouse) having an induced draft or forced draft fan shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. Each monitoring device shall be installed, maintained, calibrated

and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and be in operation when the baghouse is in use.
(9VAC5-80-1180(D) and 9VAC5-50-40) (January 6, 2015 State Major permit)

15. Monitoring Device - The permittee shall install, operate, and maintain a monitoring system(s) to continuously measure and record the combustion chamber temperatures (in ^{o}F) for each RCO/RTO (URN CD-RCO/RTO-3 and URN CD-RCO/RTO-4) and each RTO (URN CD-RTO-1 and URN CD-RTO-2) when the pollution control device is operating. The recording component of the monitoring system shall be capable of generating one-hour temperature averages during periods when the pollution control device is operating. The monitoring device's thermocouple(s) shall be calibrated annually, at a minimum. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. The monitoring system shall be provided with adequate access for inspection and shall be in use when the associated wood chip dryer is operating. (9VAC5-80-1180, 9VAC5-50-40, and 9VAC5-50-260) [November 18, 2019]

16. Monitoring Device - The permittee shall install, operate, and maintain monitoring systems to continuously measure the voltage and secondary amperage of each field or the total power input to each of the wet electrostatic precipitators (URN CD-WESP-1 and URN CD-WESP-2). Each WESP shall be operated according to the manufacturer's recommended power operating range or at a DEQ-approved operating range as determined by emissions testing. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. The WESP monitoring devices shall be provided with adequate access for inspection and shall be in use when each respective WESP is operating.
(9VAC5-80-1180(D), 9VAC5-50-40, and 9VAC5-50-260) [November 18, 2019]

17. Monitoring Device - The permittee shall install, operate, and maintain a monitoring device to continuously measure the scrubber liquid flow rate of each wet scrubber (URN CD-WS-1 and CD-WS-2). Each wet scrubber shall be operated according to the manufacturer's recommended settings or at DEQ-approved settings as determined by emissions testing. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. The wet scrubber monitoring devices shall be provided with adequate access for inspection and shall be in use when each respective wet scrubber is operating.
(9VAC5-80-1180, 9VAC5-50-40, and 9VAC5-50-260) [November 18, 2019]

18. Monitoring Device - The permittee shall install, operate, and maintain monitoring systems to continuously measure the furnace secondary combustion zone temperature and the total urea solution flow rate for the selective non-catalytic reduction system (CD-SNCR-1).

Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. The monitoring devices shall be provided with adequate access for inspection and shall be in use when CD-SNCR-1 is operating.
(9VAC5-80-1180(D), 9VAC5-50-40, and 9VAC5-50-260) [November 18, 2019]

19. Monitoring Device Observation - The permittee shall observe and record the voltage (in volts) and secondary amperage (in amps) of each field or the power input (in kW) to each WESP (URN CD-WESP-1 and URN CD-WESP-2) at a frequency of not less than once per operating shift when the respective WESP is operating. These observed power consumption readings shall be maintained in a record logbook, which shall also include the date and time of the reading, the observer's name, any noted excursions, and corrective actions taken. Alternatively, the permittee may install, operate, and maintain a monitoring system to continuously measure and record the voltage (in volts) and secondary amperage (in amps) of each field or the power input (in kW) to each WESP (URN CD-WESP-1 and URN CD-WESP-2). These records shall be available for inspection by DEQ and shall be current for the most recent five years.
(9VAC5-80-1180(D) and 9VAC5-50-50(H)) [November 18, 2019]

20. Monitoring Device Observation - To ensure good performance, the monitoring devices used to continuously measure the differential pressure drop across the fabric filters specified in Condition 14 shall be observed by the permittee with a frequency of not less than once per operating day. The permittee shall keep a log of the observations from the particulate emission control monitoring devices. The log shall include the name of the observer, the date and time of the observation, and the differential pressure reading. Alternatively, the permittee may install, operate and maintain a monitoring system to continuously measure and record the differential pressure drop across each fabric filter. These records shall be available for inspection by DEQ and shall be current for the most recent five years.
(9VAC5-80-1180(D) and 9VAC5-50-50(H)) [November 18, 2019]

21. Monitoring Device Observation - The permittee shall observe and record the scrubber liquid flow rate of each wet scrubber (URN CD-WS-1 and CD-WS-2) at a frequency of not less than once per operating shift when the respective wet scrubber is operating. These readings shall be maintained in a record logbook, which shall also include the date and time of the reading, the observer's name, any noted excursions, and corrective actions taken. Alternatively, the permittee may install, operate, and maintain a monitoring system to continuously measure and record the scrubber liquid flow rate of each wet scrubber. These records shall be available for inspection by DEQ and shall be current for the most recent five years.
(9VAC5-80-1180(D) and 9VAC5-50-50(H)) [November 18, 2019]

22. Monitoring Device Observation - The permittee shall observe and record the furnace secondary combustion zone temperature and the total urea solution flow rate for the selective non-catalytic reduction system (CD-SNCR-1) at a frequency of not less than once per operating shift when CD-SNCR-1 is operating. These observed readings shall be maintained in a record logbook, which shall also include the date and time of the reading, the observer's name, any noted excursions, and corrective actions taken. Alternatively, the permittee may install, operate, and maintain a monitoring system to continuously measure and record the furnace secondary combustion zone temperature and the total urea solution flow rate for the selective non-catalytic reduction system (CD-SNCR-1). These records shall be available for inspection by DEQ and shall be current for the most recent five years. (9VAC5-80-1180(D) and 9VAC5-50-50(H)) [November 18, 2019]

23. Furnace and Dryer Bypass Stacks - The bypass stacks for each wood-fired furnace (URN ES-FURNACE-1 and URN ES-FURNACE-2) may be used to discharge combustion gases to the atmosphere only under the following situations:

    Cold Start-Up: The period of time beginning when a wood-fired furnace is started up and lasting until the wood-fired furnace's refractory (fire brick lining) is heated to a temperature sufficient to sustain combustion operations at a minimal level or eight hours, whichever is less. The hourly heat input rate of a furnace shall not exceed 15% of its maximum rated capacity during a cold start-up.

    Idle Mode: The operation of either wood-fired furnace when in idle mode and discharging combustion gases through its respective wood-fired furnace bypass stack shall be limited to a maximum heat input rate of 5 MMBtu/hr.

    No attachments that would obstruct the upward flow and discharge of exhausted gases from any of the bypass stack openings shall be allowed.
    (9VAC5-80-1180) [November 18, 2019]

OPERATING LIMITATIONS

24. Log Debarking Process - The debarking operations of truck-delivered green wood logs using the debarker (URN ES-DEBARK) shall not exceed 781,255 ODT per year of green wood, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
    (9VAC5-80-1180) [November 18, 2019]

25. Bark Hog Process - The wood bark material processed by the bark hog (URN ES-BARK) shall not exceed 54,000 ODT per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
    (9VAC5-80-1180) [November 18, 2019]

26. Wood Chipping Process - The wood chipping of green debarked logs by the wood chipper (URN ES-CHIP) shall not exceed 360,000 ODT per year of green wood chips, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. (9VAC5-80-1180) [November 18, 2019]

27. Green Wood Hammermill Process - The green wood hammermills (URN ES-GHM-1 through URN ES-GHM-5), combined, shall process no more than 781,255 ODT per year of green wood chips, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-1180) [November 18, 2019]

28. Dried Wood Chip Production - The throughput of dried wood chips from the wood chip dryers (URN ES-DRYER-1 and URN ES-DRYER-2), combined, shall not exceed 781,255 ODT per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-1180) [November 18, 2019]

29. Softwood Feedstock - The wood chip dryers (URN ES-DRYER-1 and URN ES-DRYER-2), combined, shall process no more than 625,004 ODT of softwood feedstock (conifer and evergreen tree species) on an annual basis (80 percent of ODT limit in Condition 24). Compliance with this requirement shall be demonstrated on a monthly basis by maintaining records of the hardwood and softwood feedstock throughputs (in ODT) for the wood chip drying process, determined as the sum of each consecutive 12-month period. The consecutive 12-month period shall be demonstrated monthly by adding the wood feedstock totals for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-1180) [November 18, 2019]

30. Dried Wood Chip Hammermill Process - The dried wood chip hammermills (URN ES-DHM-1 through URN ES-DHM-9), operating in parallel, shall process no more than 664,067 ODT of dried wood chips per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-1180) [November 18, 2019]

31. Bulk Dry Powder Additive Throughput - The throughput of bulk dry powder additive used in the manufacturing process of the wood pellets (ES-ADD) shall not exceed 2,344 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-1180) [November 18, 2019]

32. Furnace Fuel - The approved fuel for use in the wood-fired furnaces (URN ES-FURNACE-1 and URN ES-FURNACE-2) is wood material consisting of clean bark, wood shavings and residue, wood chips, or a combination thereof, from hardwood and/or softwood tree species. A change in the fuel shall be considered a change in the method of operation of the wood-fired furnaces and may require a new or amended permit. However, if a change in the fuel is not subject to new source review permitting requirements, this condition should not be construed to prohibit such a change.
(9VAC5-80-1180) [November 18, 2019]

33. Double Duct Burner Fuel - The approved fuels for use in each of the double duct burners (ES-DDB-1 through ES-DDB-4) are natural gas and propane. The use of other fuels shall be considered a change in the method of operation of these burner devices and may require a new or amended permit. However, if a change in the fuel is not subject to new source review permitting requirements, this condition should not be construed to prohibit such a change.
(9VAC5-80-1180) [November 18, 2019]

34. RCO/RTO and RTO Burner Fuels - The approved fuels for use in the burners of each RCO/RTO (URN CD-RCO/RTO-3 and URN CD-RCO/RTO-4) and each RTO (URN CD-RTO-1 and URN CD-RTO-2) are natural gas and propane. The use of other fuels shall be considered a change in the method of operation of these air pollution control devices and may require a new or amended permit. However, if a change in the fuel is not subject to new source review permitting requirements, this condition should not be construed to prohibit such a change.
(9VAC5-80-1180) [November 18, 2019]

35. RTO Minimum Operating Temperature - The permittee shall operate each RCO/RTO (URN CD-RCO/RTO-3 and URN CD-RCO/RTO-4), when operating in the RTO mode, and each RTO (URN CD-RTO-1 and URN CD-RTO-2) such that the one-hour averaged temperature in the combustion chamber is at or above a DEQ approved set-point temperature as determined during performance testing as sufficient to meet the VOC emission limits specified in the permit. Prior to the date of the initial performance test, the permittee shall operate each RTO such that the one-hour averaged temperature in the combustion chamber is at or above minimum temperature recommended by the manufacturer. The gases entering the RCO/RTO and RTO control devices shall have a minimum retention time of one second at or above the minimum combustion chamber

temperature. This condition applies at all times except for start-up, shutdown, and malfunction events.
(9VAC5-80-1180) [November 18, 2019]

36. RCO Minimum Operating Temperature - The permittee shall operate each RCO/RTO (URN CD-RCO/RTO-3 and URN CD-RCO/RTO-4), when operating in the RCO mode, such that the one-hour averaged temperature in the combustion chamber is at or above a DEQ-approved set-point temperature as determined during performance testing as sufficient to meet the VOC emission limits specified in the permit. Prior to the date of the initial performance test, the permittee shall operate each RCO such that the one-hour averaged temperature in the combustion chamber is at or above minimum temperature recommended by the manufacturer. The gases entering the RCO/RTO control devices shall have a minimum retention time of one second at or above the minimum combustion chamber temperature. This condition applies at all times except for start-up, shutdown, and malfunction events.
(9VAC5-80-1180) [November 18, 2019]

37. Furnace Fuel Specifications - The approved fuel, as defined in Condition 32 of this permit for use in the wood-fired furnaces (URN ES-FURNACE-1 and URN ES-FURNACE-2) shall meet the following specifications:

    WOOD RESIDUE FUEL excluding wood which contains chemical treatments or has affixed thereto paint and/or finishing materials or plastic laminates:

    Average heat content (minimum): 4,200 Btu/lb HHV (at 50% moisture content) as determined by ASTM D5865 testing.
    (9VAC5-80-1180) [November 18, 2019]

38. Furnace and Dryer Bypass Stack Operating Limitations - Use of the wood-fired furnace stacks for periods of cold start-up shall be limited to 50 hours per year for each of the wood chip dryer lines. The two wood-fired furnaces (URN ES-FURNACE-1 and URN ES-FURNACE-2) shall not operate in cold start-up mode at the same time. Each wood-fired furnace shall be limited to 438 hours per year of operation in "idle mode" (see Condition 23) with the exhaust gases being routed through the wood-fired furnace bypass stack.
(9VAC5-80-1180) [November 18, 2019]

EMISSION LIMITS

39. Debarker Emission Limits - Emissions from the operation of the debarker (URN ES-DEBARK) shall not exceed the limits specified below:

PM	0.4 lb/hr	1.6 tons/yr
PM10	0.2 lb/hr	0.9 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 2, 25, and 65.
(9VAC5-80-1180) [November 18, 2019]

40. Wood Chipper Emission Limits - Emissions from the operation of the wood chipper (URN ES-CHIP) shall not exceed the limits specified below:

Volatile Organic Compounds	0.3 lb/hr	0.9 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 2, 26, and 65.
(9VAC5-80-1180) [November 18, 2019]

41. Furnace Emission Limits - Emissions from the operation of the wood-fired furnaces (URN ES-FURNACE-1 and URN ES-FURNACE-2) operating in "idle mode" shall not exceed the limits specified below:

	Each Furnace	Each Furnace
PM	2.9 lb/hr	0.6 tons/yr
PM10	2.6 lb/hr	0.6 tons/yr
PM2.5	2.2 lb/hr	0.5 tons/yr
Nitrogen Oxides (as NO2)	1.1 lb/hr	0.2 tons/yr
Carbon Monoxide	3.0 lb/hr	0.7 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 23, 32, 37, 38, 56, and 65.
(9VAC5-80-1180) [November 18, 2019]

42. Furnace Emission Limits - Emissions from the operation of wood-fired furnace-1 (URN ES-FURNACE-1) during cold start-ups shall not exceed the limits specified below:

PM	15.2 lb/hr	0.4 tons/yr
PM10	13.6 lb/hr	0.3 tons/yr
PM2.5	11.8 lb/hr	0.3 tons/yr
Nitrogen Oxides (as NO2)	5.8 lb/hr	0.1 tons/yr
Carbon Monoxide	15.8 lb/hr	0.4 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 23, 32, 37, 38, 56, and 65.
(9VAC5-80-1180) [November 18, 2019]

43. Furnace Emission Limits - Emissions from the operation of wood-fired furnace-2 (URN ES-FURNACE-2) during cold start-ups shall not exceed the limits specified below:

PM	15.6 lb/hr	0.4 tons/yr
PM10	14.0 lb/hr	0.4 tons/yr
PM2.5	12.1 lb/hr	0.3 tons/yr
Nitrogen Oxides (as NO2)	5.9 lb/hr	0.2 tons/yr
Carbon Monoxide	16.2 lb/hr	0.4 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 23, 32, 37, 38, 56, and 65.
(9VAC5-80-1180) [November 18, 2019]

44. RTO-1 Emission Limits – When the emissions from the green wood hammermills (URN ES-GHM) are being controlled by RTO-1 (Option 1 of Condition 3), emissions from the operation of green wood hammermills, wood-fired furnace-1 (URN ES-FURNACE-1) and wood chip dryer-1 (ES-DRYER-1), as exhausted through RTO-1 shall not exceed the limits specified below:

PM	7.6 lb/hr
PM10	7.6 lb/hr
PM2.5	7.6 lb/hr
Sulfur Dioxide	2.7 lb/hr
Nitrogen Oxides (as NO2)	23.5 lb/hr
Carbon Monoxide	28.4 lb/hr
Volatile Organic Compounds	5.9 lb/hr
Acetaldehyde	0.33 lb/hr
Acrolein	0.25 lb/hr
Benzene	0.04 lb/hr
Chlorine	0.14 lb/hr
Formaldehyde	0.32 lb/hr
Hexane	0.06 lb/hr

Hydrochloric Acid	0.33 lb/hr
Methanol	0.33 lb/hr
Phenol	0.12 lb/hr
Propionaldehyde	0.07 lb/hr

These emission limits apply at all times except for cold start-ups and idle mode operations and are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 23, 32, 37, 38, 56, and 65.
(9VAC5-80-1180 and 9VAC5-80-850) [November 18, 2019]

45. RTO-1 Emission Limits – When the emissions from the green wood hammermills (URN ES-GHM) are being controlled by RTO-2 (Option 2 of Condition 3), emissions from the operation of wood-fired furnace-1 (URN ES-FURNACE-1) and wood chip dryer-1 (ES-DRYER-1), as exhausted through RTO-1 shall not exceed the limits specified below:

PM	7.6 lb/hr
PM10	7.6 lb/hr
PM2.5	7.6 lb/hr
Sulfur Dioxide	2.7 lb/hr
Nitrogen Oxides (as NO2)	23.5 lb/hr
Carbon Monoxide	28.3 lb/hr
Volatile Organic Compounds	4.7 lb/hr
Acetaldehyde	0.30 lb/hr
Acrolein	0.19 lb/hr
Benzene	0.04 lb/hr
Chlorine	0.14 lb/hr
Formaldehyde	0.30 lb/hr
Hexane	0.06 lb/hr
Hydrochloric Acid	0.33 lb/hr
Methanol	0.19 lb/hr
Phenol	0.10 lb/hr
Propionaldehyde	0.07 lb/hr

These emission limits apply at all times except for cold start-ups and idle mode operations and are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 23, 32, 37, 38, 56, and 65.
(9VAC5-80-1180 and 9VAC5-80-850) [November 18, 2019]

46. RTO-2 Emission Limits – When the emissions from the green wood hammermills (URN ES-GHM) are being controlled by RTO-2 (Option 2 of Condition 3), emissions from the operation of green wood hammermills, wood-fired furnace-2 (URN ES-FURNACE-2) and wood chip dryer-2 (ES-DRYER-2), as exhausted through RTO-2 shall not exceed the limits specified below:

PM	7.6 lb/hr
PM10	7.6 lb/hr
PM2.5	7.6 lb/hr
Sulfur Dioxide	2.7 lb/hr
Nitrogen Oxides (as NO2)	27.8 lb/hr
Carbon Monoxide	32.9 lb/hr
Volatile Organic Compounds	6.6 lb/hr
Acetaldehyde	0.38 lb/hr
Acrolein	0.28 lb/hr
Benzene	0.04 lb/hr
Chlorine	0.14 lb/hr
Formaldehyde	0.36 lb/hr
Hexane	0.06 lb/hr
Hydrochloric Acid	0.34 lb/hr
Methanol	0.36 lb/hr
Phenol	0.14 lb/hr
Propionaldehyde	0.08 lb/hr

These emission limits apply at all times except for cold start-ups and idle mode operations and are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 23, 32, 37, 38, 56, and 65.
(9VAC5-80-1180 and 9VAC5-80-850) [November 18, 2019]

47. RTO-2 Emission Limits – When the emissions from the green wood hammermills (URN ES-GHM) are being controlled by RTO-1 (Option 1 of Condition 3), emissions from the operation of wood-fired furnace-2 (URN ES-FURNACE-2) and wood chip dryer-2 (ES-DRYER-2), as exhausted through RTO-2 shall not exceed the limits specified below:

PM	7.6 lb/hr
PM10	7.6 lb/hr
PM2.5	7.6 lb/hr
Sulfur Dioxide	2.7 lb/hr
Nitrogen Oxides (as NO2)	27.8 lb/hr
Carbon Monoxide	32.8 lb/hr
Volatile Organic Compounds	5.4 lb/hr
Acetaldehyde	0.35 lb/hr
Acrolein	0.23 lb/hr
Benzene	0.04 lb/hr
Chlorine	0.14 lb/hr
Formaldehyde	0.34 lb/hr
Hexane	0.06 lb/hr
Hydrochloric Acid	0.34 lb/hr
Methanol	0.22 lb/hr
Phenol	0.12 lb/hr
Propionaldehyde	0.08 lb/hr

These emission limits apply at all times except for cold start-ups and idle mode operations and are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 23, 32, 37, 38, 56, and 65.
(9VAC5-80-1180 and 9VAC5-80-850) [November 18, 2019]

48. RTO-1/RTO-2 Emission Limits – The combined emissions from the green wood hammermills (URN ES-GHM), the wood-fired furnaces (URN ES-FURNACE-1 & 2) and the wood chip dryers (URN ES-DRYER-1 & 2), as exhausted through RTO-1 and RTO-2 shall not exceed the limits specified below:

PM	66.6 tons/yr
PM10	66.6 tons/yr
PM2.5	66.6 tons/yr

Sulfur Dioxide	23.5 tons/yr
Nitrogen Oxides (as NO2)	145.5 tons/yr
Carbon Monoxide	156.4 tons/yr
Volatile Organic Compounds	28.9 tons/yr
Acetaldehyde	1.73 tons/yr
Acrolein	1.23 tons/yr
Benzene	0.36 tons/yr
Chlorine	1.23 tons/yr
Formaldehyde	1.87 tons/yr
Hexane	0.50 tons/yr
Hydrochloric Acid	2.96 tons/yr
Methanol	1.39 tons/yr
Phenol	0.67 tons/yr
Propionaldehyde	0.39 tons/yr

These emission limits apply at all times except for cold start-ups and idle mode operations and are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 23, 32, 37, 38, 56, and 65.
(9VAC5-80-1180 and 9VAC5-80-850) [November 18, 2019]

49. Dried Wood Chip Handling Emission Limits - Pollutant emissions from the dry wood chip handling, screening, and conveyance operations (URN ES-DWH) shall not exceed the limits specified below:

Volatile Organic Compounds	2.2 lb/hr	5.6 tons/yr
Formaldehyde	0.13 lb/hr	0.33 tons/yr
Methanol	0.30 lb/hr	0.76 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 7, 28, 56, and 65.
(9VAC5-80-1180 and 9VAC5-80-850) [November 18, 2019]

50. Pellet Press and Cooler Emission Limits - Pollutant emissions at the RCO/RTO-4 (URN CD-RCO/RTO-4) outlet stack from the operation of the wood pellet presses (URN ES-PP) and the wood pellet coolers (URN ES-CLR-1 through URN ES-CLR-6) shall not exceed the limits specified below:

PM	9.0 lb/hr	39.2 tons/yr
PM10	2.5 lb/hr	10.7 tons/yr
PM2.5	0.5 lb/hr	1.9 tons/yr
Nitrogen Oxides (as NO2)	3.2 lb/hr	13.2 tons/yr
Carbon Monoxide	1.9 lb/hr	7.9 tons/yr
Volatile Organic Compounds	10.4 lb/hr	28.5 tons/yr
Acetaldehyde	0.18 lb/hr	0.49 tons/yr
Acrolein	0.36 lb/hr	0.98 tons/yr
Formaldehyde	0.07 lb/hr	0.25 tons/yr
Methanol	0.15 lb/hr	0.41 tons/yr
Phenol	0.18 lb/hr	0.49 tons/yr
Propionaldehyde	0.11 lb/hr	0.29 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 10, 28, 56, and 65.
(9VAC5-80-1180 and 9VAC5-80-850) [November 18, 2019]

51. Dried Wood Chip Hammermill Emission Limits - Pollutant emissions at the RCO/RTO-3 (URN CD-RCO/RTO-3) outlet stack from the operation of the dried wood chip hammermills (URN ES-DHM-1 through URN ES-DHM-9) shall not exceed the limits specified below:

PM	4.8 lb/hr	20.9 tons/yr
PM10	4.8 lb/hr	20.9 tons/yr
PM2.5	0.2 lb/hr	1.0 tons/yr
Nitrogen Oxides (as NO2)	3.0 lb/hr	12.7 tons/yr
Carbon Monoxide	1.8 lb/hr	7.5 tons/yr
Volatile Organic Compounds	5.7 lb/hr	13.6 tons/yr
Acetaldehyde	0.05 lb/hr	0.12 tons/yr
Acrolein	0.07 lb/hr	0.15 tons/yr
Formaldehyde	0.08 lb/hr	0.25 tons/yr
Methanol	0.05 lb/hr	0.12 tons/yr
Phenol	0.02 lb/hr	0.05 tons/yr
Propionaldehyde	0.09 lb/hr	0.21 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 9, 28, 56, and 65.
(9VAC5-80-1180 and 9VAC5-80-850) [November 18, 2019]

52. Double Duct Burner Emission Limits - Pollutant emissions from the operation of the double duct burners (ES-DDB-1 through ES-DDB-4) shall not exceed the limits specified below:

	Each Burner	Combined burners
Nitrogen Oxides (as NO2)	0.1 lb/hr	1.2 tons/yr
Carbon Monoxide	0.2 lb/hr	1.4 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 33, 0, and 65.
(9VAC5-80-1180) [November 18, 2019]

53. Pellet Cooler HP Fines Relay System - Emissions from the operation of the Pellet Cooler HP Fines Relay System (URN ES-PCHP) shall not exceed the limits specified below:

PM	0.1 lb/hr	0.5 tons/yr
PM10	0.1 lb/hr	0.5 tons/yr
PM2.5	0.1 lb/hr	0.5 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 7, 30, and 65.
(9VAC5-80-1180) [November 18, 2019]

54. Finished Product Handling Emission Limits - Emissions from the operation of the Finished Product Handling and Truck Loadout processes (URN ES-FPH and ES-TL) shall not exceed the limits specified below:

PM	1.2 lb/hr	5.3 tons/yr
PM10	1.1 lb/hr	4.9 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 7, 30, and 65.
(9VAC5-80-1180) [November 18, 2019]

55. Visible Emission Limit – Except as specified in Condition 56, visible emissions from each exhaust stack, vent, or functionally equivalent opening that discharges to the outside air shall not exceed 20 percent opacity, except for one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity, as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except for periods of start-up, shutdown, and malfunction.
(9VAC5-80-1180, 9VAC5-50-80, and 9VAC5-50-260) (January 6, 2015 State Major permit)

56. Visible Emission Limit - Visible emissions from each RTO exhaust stack, RCO/RTO exhaust stack and baghouse exhaust stack shall not exceed five percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-1180, 9VAC5-50-80, and 9VAC5-50-260) [November 18, 2019]

57. Visible Fugitive Emissions Evaluations - The permittee shall, at a minimum, conduct weekly visual fugitive emission observations using EPA Method 22 (reference 40 CFR 60, Appendix A) of the green wood handling and storage (URN ES-GWHS) activities associated with the delivery, transfer, open storage, and handling of green pre-chipped wood and/or timber logs, including any debarking and chipping operations that may be exposed to the open air, to determine whether fugitive emissions are present (observed). These weekly evaluations shall also include an assessment of the condition and operation of all of the facilities fugitive dust control measures (including Conditions 2, 11 and 13). Should visual fugitive emissions be noted, the permittee shall make a reasonable assessment as to whether the airborne visible emissions are likely to travel beyond the facility's property boundary. Under such a situation, or if the dust control measure assessment indicates a failure of a dust control measure, the permittee shall implement corrective emission controls and/or operational measures as expeditiously as possible to remediate the cause of the visible emissions or dust control measure failure.
(9VAC5-80-1180) (January 6, 2015 State Major permit)

58. Visible Fugitive Emissions Evaluations - The permittee shall, at a minimum, conduct weekly visual fugitive emission observations using EPA Method 22 (reference 40 CFR 60, Appendix A) for the transport truck load-out operations of wood pellets to determine whether fugitive emissions are present (observed). If visual fugitive emissions are noted, the permittee shall then make a reasonable assessment as to whether the airborne visible emissions are likely to travel beyond the facility's property boundary. Under such a situation, the permittee shall implement corrective emission controls and/or operational measures as expeditiously as possible to remediate the cause of the visible emissions.
(9VAC5-80-1180) (January 6, 2015 State Major permit)

59. Visible Non-Fugitive Emission Evaluations - The permittee shall, at a minimum, conduct monthly visual emissions observations on each of the exhaust stacks, vents, or functionally equivalent openings that discharge to the outside air. The observations shall be conducted during daylight hours and under normal operating conditions, for at least a one-minute period to determine if there are any visible emissions. If no visible emissions are observed,

no further action shall be required. However, if visible emissions are noted, a visible emissions evaluation (VEE) shall be conducted for a period of six minutes (24 consecutive observations at 15-second intervals), using Method 9 (40 CFR 60, Appendix A). If the six-minute VEE opacity average exceeds the applicable opacity limit (Condition 0), the VEE shall continue for 60 minutes from the initiation of the VEE to determine compliance with the opacity limit. The permittee shall record the details of the visual observations, VEEs, and any corrective actions in a record log. The record log shall include the name of the observer, the date and time of the observations and VEEs, the presence of visible emissions or lack thereof, and the date and time of any corrective actions taken whenever visible emissions were observed. These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9VAC5-80-1180, 9VAC5-50-30, 9VAC5-80-1200, and 9VAC5-50-260) (January 6, 2015 State Major permit)

COMPLIANCE DETERMINATIONS

60. Initial Stack Testing for Criteria Pollutants – Initial performance tests shall be conducted for PM, PM_{10}, $PM_{2.5}$, CO, NOx, and VOC emissions at the outlet stacks of the two RCO/RTO (URN CD-RCO/RTO-3 and CD-RCO/RTO-4) and two RTO (URN CD-RTO-1 and CD-RTO-2) pollution control devices to demonstrate compliance with the emission limits for these pollutants. The initial performance tests shall be repeated for RCO/RTO-3 and/or RCO/RTO-4 when each of these control devices first changes operating mode from RCO to RTO or vice versa. The performance test for each control system (and the emission units controlled by the respective systems) shall be performed no later than 180 days from the date that each system commences operation (as specified in either Condition 67 or 68) or changes operating mode. The stack tests shall be performed at the highest possible operating capacities of the processing equipment on the day of the testing, but shall not be less than 80 percent of the equipment's maximum rated operating capacity. All compliance testing shall be conducted and reported and the data reduced as set forth in 9VAC5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410. Details of the tests are to be arranged with the Tidewater Regional Office. The permittee shall submit a test protocol at least 30 days prior to the scheduled testing date. One copy of the test results shall be submitted to the Tidewater Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit.
(9VAC5-80-1180 and 9VAC5-80-1200) [November 18, 2019]

61. Initial Stack Testing for Hazardous Air Pollutants - Concurrently with the performance tests required by Condition 60, performance tests shall be conducted for Acetaldehyde, Acrolein, Benzene, Chlorine, Formaldehyde, Hexane, Hydrochloric Acid, Methanol, Phenol, and Propionaldehyde emissions at the outlet stacks of the two RCO/RTO (URN CD-RCO/RTO-3 and CD-RCO/RTO-4) and two RTO (URN CD-RTO-1 and CD-RTO-2) pollution control devices. In addition, the dry wood handling operations (ES-DWH) shall be tested for methanol and formaldehyde to demonstrate compliance with the emission limits for these HAPs. The stack tests shall be performed at the highest possible operating capacities of the

process equipment on the day of the testing, but shall not be less than 80 percent of the equipment's maximum rated operating capacity. Tests shall be conducted and reported and the data reduced as set forth in 9VAC5-60-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-60-100. Details of the tests are to be arranged with the Tidewater Regional Office. The permittee shall submit a test protocol at least 30 days prior to the scheduled testing being conducted. One copy of the test results shall be submitted to the Tidewater Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit. (9VAC5-80-850, 9VAC5-60-30, and 9VAC5-80-1200) [November 18, 2019]

CONTINUING COMPLIANCE DETERMINATIONS

62. Continued Stack Testing – Performance tests shall be conducted for $PM_{10,}$ $PM_{2.5}$, CO, NOx, VOC, Methanol, Hydrogen Chloride, Acrolein, and Formaldehyde on an annual basis. Annual performance tests shall be completed no later than 13 months after the previous performance test.

    a. The annual CO, NOx and Hydrogen Chloride tests shall be performed on the outlet stacks of the two RTO (URN CD-RTO-1 and CD-RTO-2) pollution control devices and

    b. The annual $PM_{10,}$ $PM_{2.5}$, VOC, Methanol, Acrolein and Formaldehyde tests shall be performed at the outlet stacks of the two RCO/RTO (URN CD-RCO/RTO-3 and CD-RCO/RTO-4) and two RTO (URN CD-RTO-1 and CD-RTO-2) pollution control devices.

    The stack tests shall be performed at the highest possible operating capacities of the processing equipment on the day of the testing, but shall not be less than 80 percent of the equipment's maximum rated operating capacity. All compliance testing shall be conducted and reported and the data reduced as set forth in 9VAC5-50-30 and 9VAC5-60-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410 and 9VAC5-60-100. Details of the tests are to be arranged with the Tidewater Regional Office. The permittee shall submit a test protocol at least 30 days prior to the scheduled testing date. One copy of the test results shall be submitted to the Tidewater Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit. The permittee may request that the performance tests be conducted less often for a given pollutant if the performance tests for at least three consecutive years show results indicating ≤ 75% of the respective pollutant emission limit. If the request is granted, the permittee shall conduct performance tests no more than 36 months after the previous performance test for the given pollutant. (9VAC5-80-1180, 9VAC5-80-850, 9VAC5-50-30(G), 9VAC5-60-30, and 9VAC5-80-1200) [November 18, 2019]

63. Continued Stack Testing - Performance tests shall be conducted for PM, PM_{10}, $PM_{2.5}$, CO, NOx, VOC, and the HAP emissions listed in Condition 60 and 61, unless otherwise approved by the Tidewater Regional Office, every five years, or in accordance with another

DEQ-approved testing schedule. The tests shall be performed at the same stack locations as were those for the initial tests (see Conditions 60 and 61 of this permit). The stack tests shall be performed at the highest possible operating capacities of the processing equipment on the day of the testing, but shall not be less than 80 percent of the equipment's maximum rated operating capacity. All compliance testing shall be conducted and reported and the data reduced as set forth in 9VAC5-50-30 and 9VAC5-60-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410 and 9VAC5-60-100. Details of the tests are to be arranged with the Tidewater Regional Office. The permittee shall submit a test protocol at least 30 days prior to the scheduled testing date. One copy of the test results shall be submitted to the Tidewater Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit.
(9VAC5-80-1180, 9VAC5-80-850, 9VAC5-50-30(G), 9VAC5-60-30, and 9VAC5-80-1200) [November 18, 2019]

64. Visible Emissions Evaluations - Upon reasonable request by the DEQ, the permittee shall conduct additional visible emission evaluations from the air pollution control devices to demonstrate compliance with the visible emission limits contained in the permit. Details of the tests shall be arranged with the Tidewater Regional Office.
(9VAC5-80-1180, 9VAC5-50-30(G), and 9VAC5-80-1200) (January 6, 2015 State Major permit)

RECORDS AND RECORDKEEPING

65. On Site Records - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Tidewater Regional Office. These records shall include, but are not limited to the following:

    a. Annual output of debarked green wood logs (in ODT) from the debarker (URN ES-DEBARK) operations, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

b. Annual output of wood bark material (in ODT) from the bark hog (URN ES-BARK), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

c. Annual output of green wood chips (in ODT) from the wood chipper (URN ES-CHIP), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

d. Annual output of green wood chips (in ODT) from the five green wood hammermills (URN ES-GHM-1 through URN ES-GHM-5), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

e. Monthly records of the hardwood and softwood feedstock throughputs (in ODT) and percent softwood contained in the combined wood feedstock mixture, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly total for the preceding 11 months;

f. Annual output of combined dried wood chips (in ODT) from the wood chip dryers (URN ES-DRYER-1 and URN ES-DRYER-2), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

g. Annual output of combined dried wood chips (in ODT) from the nine hammermills (URN ES-DHM-1 through URN ES-DHM-9), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

h. Annual throughput of bulk dry additive (in tons) used in the wood pellet manufacturing process (ES-ADD), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months;

i. Annual hours of operation and fuel combusted during each mode of operation (normal, idle, cold start-up) for each wood-fired furnace (URN ES-FURNACE-1 and URN ES-FURNACE-2), calculated monthly as the sum of each consecutive 12-month period;

j. Monitoring records for the recorded combustion chamber temperature readings for each RCO/RTO (URN CD-RCO/RTO-3 and URN CD-RCO/RTO-4) and each RTO (URN CD-RTO-1 and URN CD-RTO-2);

k. Monitoring records for the observed voltage and secondary amperage in each field or power input readings to each WESP (URN CD-WESP-1 and URN CD-WESP-2), for each operating shift;

l. Monitoring records for each baghouse's monitor device used to continuously measure the differential pressure across the fabric filter;

m. Monitoring records for the observed scrubber liquid flow rate readings for each wet scrubber (URN CD-WS-1 and CD-WS-2), for each operating shift;

n. Monitoring records for the observed furnace secondary combustion zone temperature and the total urea solution flow rate readings for the selective non-catalytic reduction system (CD-SNCR-1), for each operating shift;

o. Results of all stack tests, visible emissions observations (VEO), and any VEE performed using EPA Method 9 or Method 22 (40 CFR 60, Appendix A) as required by this permit;

p. Records for the episodes of bypass stack usage, documenting the date, time, duration of use, cause of the episode, and any corrective action(s) if required;

q. Monthly records for the urea usage in the SNCR system (CD-SNCR-1);

r. Records of scheduled and unscheduled maintenance and operator training; and

s. Records for the total facility-wide PM, PM_{10}, $PM_{2.5}$, CO, NOx, VOC, and total HAP emissions (in tons) for the wood pellet manufacturing facility, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. The emission factors used for these calculations shall be those specified in the March 22, 2019 application unless higher values are indicated by the performance tests required by Conditions 60-63 or otherwise approved by the Tidewater Regional Office. For the purpose these calculations, the full potential to emit of each respective pollutant shall be used for emission units not otherwise limited in this permit.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9VAC5-80-1180, 9VAC5-80-850, and 9VAC5-50-50) [November 18, 2019]

66. Record of Malfunctions - The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.
(9VAC5-20-180(J) and 9VAC5-80-1180(D)) (January 6, 2015 State Major permit)

CONSTRUCTION SCHEDULE

67. Control Device Construction Schedule – Unless otherwise approved by the Tidewater Regional Office, the permittee shall complete construction and commence operation of RTO-1, RCO/RTO-3 and RCO/RTO-4 (and associated monitoring equipment) within one year of the issuance date of this permit. The permittee shall submit quarterly progress reports, including construction activities completed and construction activities remaining, to the Tidewater Regional Office for each control system listed above until such time as the construction of all three control systems is complete.

    a. Prior to the date whereupon RTO-1, RCO/RTO-3 and RCO/RTO-4 have completed construction and commenced operation, the throughput of dried wood chips from the wood chip dryer ES-DRYER-1 shall not exceed 535,260 ODT per year at 10% maximum softwood, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

    b. Prior to the date whereupon RTO-1, RCO/RTO-3 and RCO/RTO-4 have completed construction and commenced operation, the permittee shall not operate wood chip dryer ES-DRYER-2 for the purpose of production.

    c. The permittee shall not process or introduce any pre-dried wood shavings into any emission unit following the dryers.

    d. Prior to the date whereupon RTO-1, RCO/RTO-3 and RCO/RTO-4 have completed construction and commenced operation, the permittee shall comply with the emission limits included in Conditions 78-82 of this permit. Once RTO-1, RCO/RTO-3 and RCO/RTO-4 have completed construction and commenced operation, the emission limits included in Conditions 78-82 shall no longer apply.

    (9VAC5-80-1180) [November 18, 2019]

NOTIFICATIONS

68. Initial Notifications - The permittee shall furnish written notification to the Tidewater Regional Office of:

    a. The actual date on which the modifications (planned changes) to the wood pellet manufacturing facility commenced within 30 days after such date;

b. The actual start-up date of the modified wood pellet manufacturing facility and, specifically, wood chip dryer ES-DRYER-2, within 15 days after such date; and

c. The anticipated date of performance tests postmarked at least 30 days prior to such date.

(9VAC5-80-1180 and 9VAC5-50-50) [November 18, 2019]

69. Notification for Control Equipment Maintenance - The permittee shall furnish notification to the Tidewater Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

a. Identification of the air pollution control equipment to be taken out of service, as well as its location, and identification number;

b. The expected length of time that the air pollution control equipment will be out of service;

c. The nature and quantity of emissions likely to occur during the shutdown period; and

d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9VAC5-20-180(C) and 9VAC5-80-1180) (January 6, 2015 State Major permit)

70. Notification for Facility or Control Equipment Malfunction - The permittee shall furnish notification to the Tidewater Regional Office of malfunctions involving the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or electronic mail (e-mail). Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within 14 days of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Tidewater Regional Office.

(9VAC5-20-180(C) and 9VAC5-80-1180) (January 6, 2015 State Major permit)

GENERAL CONDITIONS

71. Permit Invalidation - The portions of this permit to construct the project shall become invalid, unless an extension is granted by the DEQ, if:

a. A program of continuous construction is not commenced within 18 months from the date of this permit.

b. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of the phased construction of a new stationary source or project.

(9VAC5-80-1210)

72. Permit Suspension/Revocation - This permit may be suspended or revoked if the permittee:

    a. Knowingly makes material misstatements in the permit application or any amendments to it;

    b. Fails to comply with the conditions of this permit;

    c. Fails to comply with any emission standards applicable to a permitted emissions unit;

    d. Causes emissions from the stationary source which result in violations of, or interfere with the attainment and maintenance of, any ambient air quality standard; or

    e. Fails to operate in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan (SIP) in effect at the time an application for this permit is submitted.

    (9VAC5-80-1210(F))

73. Right of Entry - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

    a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

    b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

    c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

    d. To sample or test at reasonable times.

    e. For purposes of this condition, the time for an inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.

    (9VAC5-170-130 and 9VAC5-80-1180)

74. Maintenance / Operating Procedures - At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

    The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

    a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance;

    b. Maintain an inventory of spare parts;

c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum; and

d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9VAC5-50-20(E) and 9VAC5-80-1180(D))

75. Violation of Ambient Air Quality Standard - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9VAC5-20-180(I) and 9VAC5-80-1180)

76. Change of Ownership - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Tidewater Regional Office of the change of ownership within 30 days of the transfer.
(9VAC5-80-1240)

77. Permit Copy - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9VAC5-80-1180)

INTERIM EMISSION LIMITS

The emission limits of Conditions 78-82, originally included in the January 6, 2015 State Major permit, shall continue to apply for the period specified by Condition 67(d).

78. Rotary Drum Wood Dryer and Burner Emission Limits - Criteria pollutant emissions from the <u>combined</u> operation of the rotary drum wood dryer (Equipment Ref. No. ES-DRYER-1) and wood residue-fired burner (Equipment Ref. No. ES-FURNACE-1) shall not exceed the limits specified below:

PM (total)	9.7 lbs/hr	36.8 tons/yr
PM_{10} (total)	9.7 lbs/hr	36.8 tons/yr
$PM_{2.5}$ (total)	9.7 lbs/hr	36.8 tons/yr
Sulfur Dioxide	4.4 lbs/hr	16.6 tons/yr
Nitrogen Oxides (as NO_2)	20.0 lbs/hr	75.6 tons/yr
Volatile Organic Compounds	50.0 lbs/hr	188.9 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits.
(9VAC5-80-1180 and 9VAC5-50-260) (January 6, 2015 State Major permit)

79. Hammermill Emission Limits - Criteria pollutant emissions from the combined operation of the eight (8) hammermills (Equipment Ref. Nos. ES-DHM-1 thru 8) shall not exceed the limits specified below:

PM (total)	4.6 lbs/hr	17.5 tons/yr
PM_{10} (total)	4.6 lbs/hr	17.5 tons/yr
$PM_{2.5}$ (total)	4.6 lbs/hr	17.5 tons/yr
Volatile Organic Compounds	4.5 lbs/hr	15.2 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits.
(9VAC5-80-1180 and 9VAC5-50-260) (January 6, 2015 State Major permit)

80. Facility wide Emission Limits - Criteria pollutant emissions from the operation of the wood pellet manufacturing facility, excluding the exempted emergency electrical generator and emergency fire-water pump (URNs - ES-EG and ES-FWP), shall not exceed the limits specified below:

PM (total)	82.2 tons/yr
PM_{10} (total)	82.2 tons/yr
$PM_{2.5}$ (total)	82.2 tons/yr
Sulfur Dioxide	16.6 tons/yr
Nitrogen Oxides (as NO_2)	75.6 tons/yr
Volatile Organic Compounds	245.0 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits and based on the equipment specifications and information provided in the application. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits.
(9VAC5-80-1180 and 9VAC5-50-260) (January 6, 2015 State Major permit)

81. Hazardous Air Pollutants - Hazardous air pollutant (HAP) emissions, as based on modeled results for the wood pellet manufacturing facility, shall not exceed the limits specified below:

Acetaldehyde	2.9 tons/yr
Chloride	0.6 tons/yr
Formaldehyde	9.9 tons/yr
Hydrogen chloride	1.5 tons/yr
Methanol	8.1 tons/yr
Propionaldehyde	0.5 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits.
(9VAC5-80-1180, 9VAC5-80-850, 9VAC5-170-160, and 9VAC5-60-340) (January 6, 2015 State Major permit)

82. Facility wide Emission Limits - Total HAP emissions, as based on modeled results for the wood pellet manufacturing facility, shall not exceed the limits specified below:

Highest individual HAP (Formaldehyde)	9.9 tons/yr
Total Combined HAPs	24.1 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits.
(9VAC5-80-1180, 9VAC5-80-850, 9VAC5-170-160, and 9VAC5-60-340) (January 6, 2015 State Major permit)

SOURCE TESTING REPORT FORMAT

Report Cover

a. Plant name and location
b. Units tested at source (indicate Ref. No. used by source in permit or registration)
c. Test Dates
d. Tester; name, address and report date

Certification

a. Signed by team leader/certified observer (include certification date)
b. Signed by responsible company official
c. *Signed by reviewer

Copy of approved test protocol

Summary

a. Reason for testing
b. Test dates
c. Identification of unit tested & the maximum rated capacity
d. *For each emission unit, a table showing:
    i. Operating rate
    ii. Test Methods
    iii. Pollutants tested
    iv. Test results for each run and the run average
    v. Pollutant standard or limit
e. Summarized process and control equipment data for each run and the average, as required by the test protocol
f. A statement that test was conducted in accordance with the test protocol or identification & discussion of deviations, including the likely impact on results
g. Any other important information

Source Operation

a. Description of process and control devices
b. Process and control equipment flow diagram
c. Sampling port location and dimensioned cross section Attached protocol includes: sketch of stack (elevation view) showing sampling port locations, upstream and downstream flow disturbances and their distances from ports; and a sketch of stack (plan view) showing sampling ports, ducts entering the stack and stack diameter or dimensions

Test Results

a. Detailed test results for each run
b. *Sample calculations
c. *Description of collected samples, to include audits when applicable

Appendix

a. *Raw production data
b. *Raw field data
c. *Laboratory reports
d. *Chain of custody records for lab samples
e. *Calibration procedures and results
f. Project participants and titles
g. Observers' names (industry and agency)
h. Related correspondence
i. Standard procedures

* Not applicable to visible emission evaluations