FLORIDA DEPARTMENT OF
Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

(Sent by Electronic Mail – Return Receipt Requested)

Mr. Mark Haser, Plant Manager: mark.haser@envivabiomass.com
Enviva Pellets Cottondale, LLC
2500 Green Circle Parkway
Cottondale, Florida 32431

Re: Title V Air Operation Permit Renewal
Proposed Permit No. 0630058-020-AV
Cottondale Wood Pellet Plant

Dear Mr. Haser:

One copy of the proposed permit determination for the renewal of the Title V air operation permit for the Cottondale Wood Pellet Plant located in Jackson County at 2500 Green Circle Parkway, Cottondale, Florida, is enclosed. This letter is sent as a courtesy to inform you that the revised draft permit has become a proposed permit.

The Florida Department of Environmental Protection has posted an electronic version of this determination on the Division of Air Resource Management's website for the United States Environmental Protection Agency (EPA) Region 4 office's review. Interested persons may view the proposed permit by visiting the following website: https://fldep.dep.state.fl.us/air/emission/apds/default.asp and entering the permit number shown above.

Pursuant to Section 403.0872(6), Florida Statutes, if EPA makes no objection to the proposed Title V air operation permit is within 45 days, the proposed permit will become a final permit no later than 55 days after the date on which the proposed permit was mailed (posted) to EPA. If EPA has an objection to the proposed permit, the final permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

If you should have any questions, please contact Jon Holtom, P.E., at 850/717-9079, or by email at jon.holtom@dep.state.fl.us.

Sincerely,

David Lyle Read, P.E.
2018.07.31 11:37:27 -04'00'

For:
Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/dlr/jh

Copies sent by electronic mail to the following:

Mr. Mark Haser, Plant Manager: mark.haser@envivabiomass.com
Joe Harrell, Corporate EHS Manager, Enviva Pellets, LLC: joe.harrell@envivabiomass.com
Russell Kemp, P.E., Ramboll Environ: rkemp@ramboll.com
Michael Carbon, Managing Principal, Ramboll Environ: mcarbon@ramboll.com
Kai Simonsen, Air Permitting Engineer, Enviva Pellets, LLC: kai.simonsen@envivabiomass.com
Armando Sarasua, P.E., DEP NWD: armando.sarasua@dep.state.fl.us
Tracy White, DEP Northwest District Branch Office: tracy.a.white@dep.state.fl.us

Kerri N. Powell, Environmental Integrity Project: kpowell@powellenvironmentallaw.com
Patrick J. Anderson, Environmental Integrity Project: panderson@powellenvironmentallaw.com
EPA Region 4: R4TitleVFL@epa.gov
Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us
Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us

Clerk Stamp
FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Lynn Scearce

2018.07.31
15:09:09 -04'00'

Permit No. 0630058-020-AV

I. Public Notice.

An Intent to Issue Air Permit issued to Enviva Pellets Cottondale, LLC for the Cottondale Wood Pellet Plant located in Jackson County at 2500 Green Circle Parkway, Cottondale, Florida, was clerked on March 8, 2018. The Public Notice of Intent to Issue Air Permit was published in The Jackson County Times on March 15, 2018. The draft Title V air operation permit was made available for public inspection at the office of the Florida Department of Environmental Protection, Division of Air Resource Management (permitting authority) in Tallahassee. Proof of publication of the Public Notice of Intent to Issue Air Permit was received on March 23, 2018.

II. Public Comment(s).

Comments were received from the public during the 30-day public comment period. The minor changes made to the permit as a result of these comments were not considered significant enough to reissue the draft Title V air operation permit and require another Public Notice; therefore, the draft Title V air operation permit was changed as detailed below and is being submitted as a proposed permit for EPA review. Additions to the permit are indicated by a double underline. Deletions from the permit are indicated by a ~~strike through~~. All changes are highlighted in yellow.

Letter from Environmental Integrity Project dated April 13, 2018.

Comment 1. The draft permit does not require sufficient monitoring, recordkeeping, and reporting requirements to assure compliance with the applicable opacity limits set forth in 62-296.320(4)(b)(1), F.A.C., and Permit Conditions FW4 and B.8. While the initial draft permit did require opacity monitoring on the facility's wood drying systems because they were subject to 40 CFR 60, Subpart Db of the Clean Air Act's New Source Performance Standards, those requirements have been deleted in the revised draft because the facility is no longer subject to Subpart Db. Florida DEP, however, has not replaced the deleted monitoring requirements with any new monitoring requirements, meaning the revised permit requires no routine monitoring, recordkeeping, or reporting conditions to ensure compliance with the 20% opacity limits established in Condition FW4 and B.8. While the facility is required to conduct an annual compliance test for visible emissions, this is far too infrequent to demonstrate compliance with visible emissions limits measured in 6-minute increments.

Title V permits must require periodic monitoring "sufficient to yield reliable data from the relevant time period and that are representative of the source's compliance with the permit." Florida DEP must therefore revise the permit to include monitoring of the dryer lines and other units for visible emissions sufficient to demonstrate compliance with Conditions FW4 and B.8. Ideally, the facility should install continuous opacity monitors (COMS) to fully monitor compliance with the opacity limit. COMS are relatively common at wood pellet facilities on the scale of Enviva Cottondale and are the best method to accurately monitor opacity. At a bare minimum, however, the permit should require daily observations of opacity from the drying lines to ensure compliance with Condition B.8., as well as observations of each of the additional emissions units to ensure compliance with facility-wide Condition FW4. The permit should further require that the observations be conducted by personnel trained to perform EPA Reference Method 9 visible emissions testing and be conducted with a clear view of the plume against a contrasting background, along with other similar requirements necessary to ensure observations accurately measure the opacity of visible emissions.

In addition to monitoring requirements, the permit should be revised to require that the Permittee maintain a log suitable for inspection recording the daily observations, including the date and time of the observation, the opacity measured, the name of the observer, and whether the observer has been trained to conduct Method 9 emissions testing. EIP further recommends the following language be incorporated: "For each source that exhibits visible emissions, the permittee shall determine the cause of the visible emission and correct the problem in the most expedient manner possible. The Permittee shall note the cause of the visible emissions, the pressure drop, any other pertinent operating parameters, and the corrective action taken in log described above." Finally, the permit should require that any deviations above the 20% visible emissions limits contained in Conditions FW4. and B.8. should be included in the facility's Semi-Annual Monitoring Reports.

Response 1. With the installation of two small natural gas-fired boilers replacing the two heat recovery steam generators that had used slip stream of heated exhaust from the wood fired dyer lines to generate steam, the dryer lines are no longer subject to 40 CFR 60, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. The dyer lines are no longer subject to Subpart Db, because they no longer meet the rule's definition for steam generating units. Consequently, the applicable regulatory standards for particulate matter (PM) and opacity (VE) are in Rule 62-296.410(2)(b), F.A.C. (carbonaceous fuel burner rule), which imposes a PM limit of 0.2 lbs/MMBtu and a VE limit of 30% opacity under normal conditions, with a 33% opacity for 6 minutes per hour under exceptional conditions. To avoid a potential increase in emissions following the regulatory "relaxation" from NSPS Subpart Db to the state's carbonaceous fuel burner rule, the applicant requested to limit the emissions from the dryer lines to 3 lbs/hour of PM and 20% opacity, based on emissions guarantees from the dryer manufacture. These limits were established in permit No. 0630058-019-AC. The 3 lb/hr guarantee is slightly less than the NSPS emissions limit of 0.03 lb/MMBtu (equivalent to 4.53 lb/hr at maximum permitted capacity) and significantly less than the state limit of 0.2 lb/MMBtu (equivalent to 30.2 lb/hr).

Because of the use of a wet electrostatic precipitator for particulate removal prior to the use of a regenerative thermal oxidizer for control of volatile organic compounds, the exhaust from the stack contains excessive moisture, which would cause interference with readings from a continuous opacity monitor. In addition, a review of the VE test results for the facility over the past eight years shows that the tested VE has always been less than 1%. Like many facilities in Florida with such wide compliance margins, the Department has determined that annual testing is sufficient to satisfy the requirement for periodic monitoring, and the commenter's request for daily visible emissions readings is not reasonably justified.

While reviewing this comment, the Department discovered that needed revisions to Specific Condition B.8. were inadvertently overlooked when preparing the revised draft Title V permit. In order to help clarify that the dryer lines are no longer subject to NSPS Subpart Db; that the dryer lines are subject to Rule 62-296.410(2)(b)1., F.A.C.; and that the applicant has elected to continue to comply with the more restrictive visible emissions standards contained in Subpart Db (established in permit No. 0630058-019-AC), the Department has revised Specific Condition B.8. to read as follows:

B.8. Visible Emissions (VE). ~~VE shall not exceed 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. The opacity standards apply at all times, except during periods of startup, shutdown or malfunction. [Rule 62-204.800(8)(b), F.A.C.; 40 CFR 60.43b(f & g)]~~Visible emissions from each dryer line shall not exceed the following:

a. *State Limit*. 30 percent opacity, except that visible emissions not exceeding 33 percent opacity shall be allowed for one six-minute period in any one-hour period.

b. *Applicant Requested Limit*. 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

These opacity standards apply at all times, except during periods of startup, shutdown or malfunction. [Rule 62-296.410(2)(b)1., F.A.C.; Rule 62-4.070(3), F.A.C.; Permit No. 0630058-019-AC]

For informational purposes, the 20% VE limit shown in Facility-wide Condition FW4. is a generally applicable requirement from Rule 62-296.320(4)(b), F.A.C. While this standard applies to all emissions units at the facility, including Insignificant and Unregulated activities, it does not impose any unit-specific testing or periodic monitoring requirements.

The Department notes that these PM and VE limits are subject to change based on the PSD air construction permit application (No. 0630058-024-AC, PSD-FL-445) currently under review by the Department. The Department will impose Best Available Control Technology determinations on the dryers for PM and VE together with other applicable pollutants. The Department will also, as part of the PSD permitting process, make secondary BACT determinations (i.e., by identifying necessary fuel use limitations and/or work practice standards) to be applicable during startup, shutdown and malfunction (SSM) events. The Department may also include periodic monitoring requirements to provide reasonable assurance of the permittee's compliance with the emission limits and other permit requirements. Any changes resulting from this application and finalized in the PSD permit will be required to be incorporated into the facility's Title V air operation permit through a subsequent permit revision.

Comment 2. The revised draft permit lacks monitoring, recordkeeping, and reporting requirements to demonstrate compliance with limits on operational parameters for the wood dryer lines, including the associated WESP and RTO control devices. Although the draft permit does require the facility to keep records of certain operating parameters for the facility's wood dryers and related control equipment (Condition B.26), this condition does not require sufficient monitoring and recordkeeping to assure compliance with the wood drying lines' "essential potential to emit (PTE) parameters" (Conditions B.1 through B.31).

First, although Condition B.1 limits the dryer lines' operational capacity to 125 MMBtu per hour input averaged annually and 151 MMBtu averaged over a 24-hour period, nothing in the permit requires the facility to monitor and record the heat input. In order to assure compliance with Condition B.1, the permit must require the facility to monitor and keep records of the heat input (or a surrogate parameter such as fuel feed rate if direct monitoring of the heat input is not feasible).

Next, Condition B.6 sets out maximum hourly temperatures for the dryer outlet as well as the WESP inlet and outlet gas streams, and Condition B.7 establishes minimum operating temperatures of the RTO combustion chamber. These limits are necessary to ensure that the control devices achieve optimal destruction efficiencies. Permit Condition B.26, meanwhile, requires the facility to keep records of these parameters on an hourly (WESP system) and three-hour average (RTO temperature). Despite the fact that these parameters are vital to assuring that the facility does not exceed emissions limits, the permit does not otherwise indicate how frequently the facility should monitor these temperatures and operating parameters. The word "hourly" in Condition B.26 is ambiguous at best and implies that the facility need only to record a once-per-hour temperature reading. This is too infrequent to assure compliance with temperature limits that are averaged over one hour and three hours. The permit should be revised to require the installation and operation of systems to continuously monitor and record the temperatures limited by Conditions B.6 and B.7 as well as the WESP operating parameters listed in Condition B.26. Such systems are utilized at similar wood pellet mills to accurately monitor and record these operating parameters which are vital to assuring facilities do not exceed emissions limits for PM and VOCs. Alternatively, the permit must require a specific, frequent monitoring interval that produces a reliable average demonstrating compliance with the operating parameters.

Response 2. Specific Conditions B.1. - B.5., which addresses permitted capacity, hours of operation, etc., reflect essential potential to emit parameters for the dryer lines. Specific Conditions B.6. and B.7. reflect operating parameters for the wet electrostatic precipitator (WESP) and the regenerative thermal oxidizer (RTO) control devices. Specific Conditions B.8. - B.11. reflect established emissions limits for VE and PM. Specific Conditions B.12. - B.31. reflect monitoring, testing and reporting requirements established to provide reasonable assurance of compliance with the emissions limits for VE and PM controlled by the WESP. Although there is no specific emissions limit for volatile organic compounds (VOC) from the dryer lines, the conditions of this permit require temperature monitoring at the RTO sufficient to provide reasonable assurance of proper operation for the reduction of VOC emissions generated during the drying process.

The Department will re-evaluate these emissions limits and monitoring requirements during the processing of the abovementioned PSD air construction permit application currently under review by the Department. No changes were made to the Title V permit as a result of this comment.

Comment 3. The source testing requirements set forth in the draft permit that are meant to validate the accuracy of the facility's emissions calculations for VOC, PM, and other pollutants are insufficient. Specifically, Permit Condition B.2 requires that during testing, the facility must operate its dryer lines at "121 tons of pellets per hour, measured at the Pellet Bulk Loadout." While we agree that stipulating the process rate during testing is beneficial if the rate represents a unit's maximum capacity to emit pollution, measuring the production rate at the Pellet Bulk Loadout does not accurately represent the production rate of the dryer lines. First, there are numerous processes and storage units between the wood dryers and the Pellet Bulk Loadout. Second, the permit authorizes the facility to bypass the dryer and send pre-dried wood chips directly into the pelletizing lines. Therefore, the tonnage of pellets measured at the Pellet Bulk Loadout has no direct connection to the dryer's production rate during testing - the facility could comply with the terms of the permit during testing (by producing 121 tons of pellets per hour at the Loadout) while actually processing considerably less material in the dryers, thereby lowering emissions and

associated emission factors. Florida DEP must rewrite this condition to require the facility to accurately measure the actual material throughput of the dryers.

Title V permits must contain "testing . . . requirements sufficient to assure compliance with the terms and conditions of the permit." Further, under Florida's Title V regulations, permits must contain "test methods . . . which yield reliable data and are consistent with the applicable requirement, *representative of the emissions unit's actual performance*, and sufficient to indicate whether the unit remains in compliance." Because nothing in the permit requires the facility to report the actual process rate of the dryer during testing, and because the requirement to measure production rate at the Pellet Bulk Loadout has no bearing on the dryers' process rate, the draft permit does not ensure that the test method will yield reliable data that is representative of the dryers' actual performance.

The disconnect between the rate of pellets produced at the Pellet Bulk Loadout and the amount of material processed in the wood dryers is substantial. The draft revised permit states that after the dryer, "[d]ried wood chips are stored in a concrete silo, waiting to be ground by the dry hammer mills." The permit also states that, prior to the hammer mills, wood chips are stored in a "dry chip storage bin, with a capacity of approximately 300 tons of dry chips." Further, between the hammermills and the pellet presses, there is an additional 120 tons of storage in the form of three "sealed storage and metering bins each with a capacity of approximately 40 tons." Finally, the pelletizing line itself has a maximum production rate of 120 tons per hour. Because each test run consists of a one-hour sampling time, the one hour of pellets measured at the loadout after the pelletizing lines has no relationship with the one hour of operation at the dryer. The dryers could process zero tons of material during the testing while the Pellet Bulk Loadout still measured 120 tons of pellets during the one-hour test run.

Response 3. To help clarify the understood intent of the testing requirements, the Department has added the following permitting note after Specific Condition B.2.:

> *{Permitting Note: During compliance testing, the maximum pellet loadout rate shall be achieved solely through the pelletizing of chips processed through the dryers. No dried chips shall be introduced to the pelletizers from the dry chip storage bins during the compliance testing periods.}*

The Department will address this issue further during the processing of the PSD air construction permit application currently under review by the Department. If the Department determines that additional enforceable testing limitations are appropriate, they will be added through issuance of that air construction permit and subsequent Title V permit revision.

Comment 4. In response to EIP's initial comments requesting that Florida DEP incorporate Section 112(r)(1)'s General Duty Clause requirements into Enviva Cottondale's Title V permit, Florida DEP argues that the combustible wood dust is not an extremely hazardous substance and is therefore not subject to the General Duty Clause. Florida's assertion is incorrect.

Wood dust produced by wood pellet manufacturing plants like the Enviva Cottondale plant easily qualifies as an "extremely hazardous substance" that is subject to the General Duty Clause. According to Clean Air Action section 112(r)(1), the General Duty Clause applies to "owners and operators of stationary sources producing, processing, handling or storing any extremely hazardous substances." The legislative history of this provision indicates that an accidental release is one which causes or may cause immediate (or near term) death, serious injury or substantial property damage as the result of exposure to an extremely hazardous substance over limited periods of time. Although the Clean Air Act does not define "extremely hazardous substances," the legislative history provides criteria to determine if a substance is extremely hazardous. Specifically, the Senate Report states that "extremely hazardous substance" would include any agent "which may ***or may not*** be listed or otherwise identified by any Government agency which may as the result of short-term exposures associated with releases to the air cause death, injury or property damage due to its toxicity, reactivity, flammability, volatility, or corrosivity." Further, the Senate Report states, "the release of any substance which causes death or serious injury because of its acute toxic effect ***or as a result of an explosion or fire or which causes substantial property damage by blast, fire,*** corrosion or other reaction would create a presumption that such substance is extremely hazardous."

There is overwhelming evidence that wood dust generated by pellet plants is flammable and can be explosive, leading to death, injury, or substantial property damage. Since 2010, more than half of the 15 largest wood pellet mills in the nation have had newsworthy fires or explosions, including Enviva Cottondale and several other Enviva plants. A fire at a wood pellet facility in Port Arthur, Texas burned for more than 50 days in 2017, leading to dozens of nearby residents to seek medical attention. In another incident, a "flash fire" at the Hazlehurst pellet mill in Hazlehurst, Georgia—the facility's second fire since commencing operations in 2013—seriously injured four employees. A wood dust explosion at another Georgia pellet mill "rattled windows in homes about five miles away." While it is fortunate that there have been no fatalities from wood dust explosions at pellet mills in the US, a wood dust explosion at a Canadian mill in 2012 killed an employee.

In light of the well-documented history of fires and explosions caused by wood dust at wood pellet manufacturing plants, wood dust plainly qualifies as an "extremely hazardous substance" that is subject to the Clean Air Act's General Duty Clause. Accordingly, Florida DEP must add conditions to the Cottondale plant's Title V permit that assures compliance with the General Duty Clause. In particular, Florida DEP should revise the Cottondale permit to include enforceable conditions that:

(1) Identify Clean Air Act section 112(r)(1) as an applicable requirement with respect to the facility's handling of wood dust.

(2) Specifically require the facility to prepare a hazard analysis identifying the hazards associated with wood dust and the facility's processes, potential fire and explosion scenarios, and the consequences of a fire or explosion.

(3) Establish specific design and operation standards that the facility must meet to prevent a dust-related fire or explosion.

(4) Establish recordkeeping and reporting requirements sufficient to demonstrate that the facility is meeting its General Duty Clause obligations.

Even if Florida DEP does not believe that it is required to include detailed conditions in the Enviva Cottondale permit to assure the facility's compliance with the General Duty Clause, EPA has explained that state permitting authorities "have the flexibility to establish additional terms for the permit [to assure compliance with the General Duty Clause] if it so chooses." In light of the frequent occurrences of fires and explosions at wood pellet manufacturing plants that put workers and communities at risk, Florida DEP should take this opportunity to develop permit conditions designed to decrease the likelihood of accidents that lead to death, serious injury, or significant property damage. Florida DEP should not bypass this opportunity to ensure that Enviva Cottondale implements safety measures that could avert a tragic accident.

Response 4. The Department's charge is to regulate the emissions of air pollutants into the ambient air. It is the charge of the Occupational Safety and Health Association (OSHA) to protect the health and welfare of workers in industrial settings. As the Department stated in the revised draft determination for this project:

> *Clean Air Act (CAA) Section 112r requires EPA to publish regulations and guidance for chemical accident prevention at facilities using substances that pose the greatest risk of harm from accidental releases. Owners and operators of stationary sources that manufacture, use, store, or otherwise handle more than a threshold quantity of a listed regulated substance, must implement a risk management program and submit a Risk Management Plan for all covered processes at the facility. The "general duty clause" under CAA section 112(r)(1) applies only to stationary sources that manage substances listed pursuant to section 112(r)(3) or any other extremely hazardous substance. Although there are safety considerations associated with the generation and handling of wood particles, this material is not listed under section 112(r)(3) and does not constitute an extremely hazardous substance the accidental release of which could pose a great risk of harm to the public. As such, there is no requirement that the facility prepare and submit a Risk Management Plan under section 112(r)(1). Although not component to the Title V program, with specific regard to combustible wood dust, the facility is required to maintain a safe working environment consistent with applicable standards of the federal Occupational Health and Safety Act (OSHA), which includes guidance associated*

with the Combustible Dust National Emphasis Program (Directive Number: CPL 03-00-008; reissued March 10, 2008) (accessible online at https://www.osha.gov/OshDoc/Directive_pdf/CPL_03-00-008.pdf).

No changes were made to the Title V permit as a result of this comment.

Finally, to reflect corrective actions taken on the part of the Department to resolve on-going compliance issues with Enviva, Appendix CO-2, Consent Order No. 18-1106, has been as an administratively added to the appendices section of the proposed permit.

III. Conclusion.

The permitting authority will issue the proposed permit No. 0630058-020-AV, with the minor changes to the draft Title V air operation permit noted above.