

**Environmental Integrity Project | Dogwood Alliance | Our Children's Earth | Partnership
for Policy Integrity | Natural Resources Defense Council**

April 26, 2018

The Honorable Ralph S. Northam
Office of the Governor
P.O. Box 1475
Richmond, VA 23218

Dear Governor Northam:

We, the undersigned community and environmental groups who work to protect the health and wellbeing of Virginia's citizens and environment, call on Virginia officials to address the dangerous and unlawful air pollution emitted by the wood pellet manufacturing industry in Virginia. In particular, we request that Virginia halt the unpermitted emissions of hazardous air pollutants at the Enviva Southampton pellet mill near Suffolk, and take the additional steps set forth in this letter to address other deficiencies at the Enviva facility and in any future permitting actions.

Today, Environmental Integrity Project (EIP) released a report, "Dirty Deception: How the Wood Biomass Industry Skirts the Clean Air Act," which reveals how the wood pellet manufacturing industry in the southern US, including in Virginia, emits vast amounts of unlawful air pollution and systematically evades Clean Air Act requirements to reduce that pollution. These factories, including the massive Enviva Southampton mill, convert millions of tons of trees into wood pellets to be shipped to Europe, where they are burned for electricity under the false premise that doing so is carbon neutral. It turns out this emerging industry emits substantially more air pollution here in the US than anybody expected, but states—including Virginia—are not doing enough to bring these facilities into compliance with the Clean Air Act.

First, Virginia Must Eliminate Existing, Unlawful Air Pollution and Require Adequate Emissions Testing Requirements.

Virginia is home to one of the only large wood pellet mills in the nation that does not utilize any controls to reduce hazardous air pollution (HAP) and volatile organic compound (VOC) emissions: the Enviva pellet mill in Southampton County. To avoid having the Southampton Plant regulated as a major air pollution source, Enviva agreed to restrict the plant's emissions to below the "major source threshold." For VOCs, this threshold is an emission rate at or above 250 tons per year. For HAPs, the threshold is 10 tons per year for any individual HAP and 25 tons per year for combined HAPs. While the facility apparently is complying with the VOC limit (barely), **the lack of adequate pollution controls means Enviva Southampton is emitting at least 92,000 pounds of HAPs per year (46 tons), roughly twice the 24.1 ton per year limit set forth in its air pollution permit.** The facility also likely emits 21 tons of methanol and 16 tons of formaldehyde, again vastly exceeding the annual limits in the facility's permit.

Nearly identical facilities in other southern states that do use pollution controls emit 40 to 50 times less HAPs.¹ Notably, Virginia DEQ has never even required emissions testing for HAPs at Enviva Southampton, and instead has relied on Enviva's own estimates, which are also not based on emissions testing at wood pellet mills and rely on dubious assumptions.

Enviva argues that the Southampton plant emits much lower levels of HAPs than other similar facilities because it processes mostly hardwood. Wood pellet mills can process softwood, hardwood, or a mix of both. Because softwood emits substantially more VOCs than hardwood, Enviva assumed, without substantive evidence, that the same would be true for HAPs. However, stack test data from other facilities and statements by Enviva's own consultant strongly refute this assumption. As explained below, regardless of the ratio of hardwood and softwood, Enviva Southampton emits vast amounts of unlawful hazardous air pollution.

To test Enviva's HAP assumptions, EIP surveyed eleven sets of emissions tests at wood pellet mills processing a range of hardwood and softwood.² On the whole, as hardwood percentages increased, emission factors for total HAPs actually *increased* rather than decreased. Methanol emissions in particular increased substantially as more hardwood than softwood is processed. These test results agree with several studies that show more methanol emissions from drying hardwood than softwood in the lumber and engineered wood industries.³

Enviva's frequent consultant for emissions testing, Air Control Techniques (ACT), reached this same conclusion concerning HAPs and the hardwood/softwood mix. In reviewing emissions testing on a wood dryer at an Enviva facility in Mississippi, ACT states: "[t]he emissions of organic HAP compounds are not sensitive to the hardwood/softwood ratio. The data summarized in the [stack test report] indicate that emissions of organic HAPs decreased slightly as the softwood content increased from 10% to 100%."⁴ In this context, the organic HAPs in question were formaldehyde, methanol, and acetaldehyde—those same HAPs emitted by Enviva Southampton.

¹ For instance, the Hazlehurst Pellets mill in Georgia, which produces 525,000 tons of pellets per year compared to Enviva Southampton's 535,000 tons per year, emits less than two tons of HAPs because it uses thermal oxidizing technology to reduce HAPs by 95%. Compliance Emissions Testing, Hazlehurst Wood Pellets, Test Dates December 16-17, 2015, prepared by ATI testing.

² These tests include the March and April, 2017 testing at Enviva Sampson in North Carolina (25% hardwood), the October, 2013 testing at Enviva Wiggins in Mississippi (40% hardwood), and nine sets of testing conducted throughout 2017 at Appling County Wood Pellets in Georgia. Appling County tested three times at 70% hardwood, three times at 80% hardwood, and three times at 100% hardwood. All of these tests were conducted pursuant to compliance testing regulations of each state and following appropriate EPA methodology.

³ For instance, one study assessing HAP emissions from oriented strandboard drying showed hardwood emitting nearly three times as much methanol as softwood southern pine, at .33 lb/ODT and .12 lb/ODT respectively. Milota, Michael, "Emissions from Wood Drying: the Science and the Issues," Forest Products Journal, 2000, Issue 50(6); Another study of wood drying, conducted at lumber kilns, tested five species of softwood and one species hardwood for HAP emissions, including methanol. The results again showed that the hardwood species emitted much higher rates of methanol than any of the softwoods. Milota, Mike and Mosher, Paul, "Emissions of Hazardous Air Pollutants from Lumber Drying," Forest Products Journal, July 2008 Issue 7/8, at 50-55.

⁴ Air Emission Test Report for Enviva Pellets Wiggins, Prepared by Air Control Techniques, October 31, 2013, at 14.

All eleven tests EIP surveyed result in emission factors that place Enviva Southampton's HAP emissions at nearly double its emissions limits, including six tests conducted at a similar facility at nearly the same ratio of hardwood Enviva Southampton currently processes. It is simply implausible that Enviva Southampton is not exceeding its permit limits, and likewise, the Clean Air Act's major source threshold for HAPs.

Virginia DEQ must hold the Enviva Southampton plant accountable for its Clean Air Act noncompliance. In particular, Virginia DEQ must either require the facility to limit production to the point that the facility's maximum potential HAP emissions (considering controls) are below the major source threshold, or require that the facility comply with the Clean Air Act requirements applicable to major HAP sources. Specifically, Clean Air Act section 112 requires that major sources for HAP reduce their emissions using "maximum achievable control technology." Because U.S. EPA has not published a federal rule establishing what constitutes maximum achievable control technology for wood pellet mills, Virginia DEQ must make this determination on a case-by-case basis. Given that nearly every other similar mill in the nation utilizes regenerative thermal oxidizers to reduce HAP emissions from at least some of their units, use of this technology is clearly "achievable" for the Southampton plant and should be required.

Next, Virginia Must Address the Industry's Terrible History of Fires and Explosions.

Since 2014, more than half of the large pellet mills in the South have had news-worthy fires or explosions, including two fires at Enviva facilities in Virginia.⁵ These fires can produce massive amounts of harmful air pollution; for instance, a recent silo fire at a Texas pellet facility burned for more than 50 days, sickening dozens of nearby residents and leading to multiple lawsuits. Many of these fires and explosions are caused by combustible wood dust, an extreme hazard at wood pellet mills.

The Clean Air Act gives Virginia a powerful tool to address wood dust explosions and fires. The Act contains a General Duty Clause which requires facilities producing or handling extremely hazardous substances to design, maintain, and operate their facilities in a safe manner. As the long list of fires and explosions at wood pellet facilities show, wood dust clearly qualifies as an extremely hazardous substance. Unfortunately, Enviva Southampton's permit does not even reference the General Duty Clause. Virginia DEQ must revise this permit to specify that the General Duty Clause applies to the facility's handling of explosive dust and require the facility to perform specific steps that are sufficient to ensure that workers and others who live, work, recreate in the facility's vicinity are protected from the dangers posed by combustible dust. At a minimum, the permit should:

- (1) Identify the Clean Air Act's General Duty Clause as an applicable requirement with respect to the facility's handling of combustible dust.
- (2) Specifically require the facility to prepare a hazard analysis identifying the hazards associated with explosive dust and the facility's processes, potential fire and explosion scenarios, and the consequences of a fire or explosion.

⁵ Bryant, Cal. "Enviva Fire Quickly Contained." *Roanoke-Chowan News-Herald* (Jan. 24, 2013), <http://www.roanoke-chowannewsheald.com/2013/01/24/enviva-fire-quickly-contained/>; Hill, Brian. "Firefighters Battle Fire at Port of Chesapeake." *WKTR.com* (Feb. 28, 2018), <http://wtkr.com/2018/02/28/firefighters-battle-blaze-at-port-of-chesapeake/>.

- (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.

Finally, Virginia Must Issue Better Permits for Future Wood Pellet Mills.

Given the heavy burden this industry places on the citizens and environment of Virginia, the undersigned groups oppose the issuance of permits for new wood pellet mills. However, if the state does issue permits for new facilities or for modifications at existing facilities, officials must ensure new permits require facilities to comply with all Clean Air Act requirements. The undersigned groups call for the following specific actions in future permitting:

- 1. Require “major” sources of air pollution to install the best available control technology.** As EIP’s report reveals, many pellet mills with major source permits evade using the best available control technology, or any control technology at all, while facilities with minor source permits, often the same size or larger, do utilize controls. Virginia must not reward companies for refusing to install controls that would reduce facility emissions to minor levels. Rather, Virginia must require new or modified major sources to reduce emissions using controls that are at least as effective as those utilized by the best-controlled minor sources. This includes using VOC controls that achieve at least 95% reductions on emissions on each of the major sources of pollution at the facility. If facilities in Georgia and Alabama can do this, so can Virginia facilities.
- 2. Ensure Communities are Notified of and Able to Participate in Permitting Decisions.** Many of the air permits EIP surveyed from across the South were issued without any public notice or the ability to comment, including permits for the initial construction of facilities. This means communities were not informed of the decision to allow sources of air pollution to locate in their backyard. Virginia DEQ should ensure that there is a meaningful opportunity for public involvement in any permitting action authorizing the construction or modification of a wood pellet mill.
- 3. Institute pellet production limits at facilities that claim to be too “minor” for the best available pollution controls.** If pollution controls will not keep emissions below legal limits when a facility is operated at full capacity, the facility’s permit must restrict maximum production to a level that ensures the facility will not exceed the major source threshold.

The Clean Air Act only serves to protect health and the environment when state agencies are fully implementing all of the Act’s requirements. The undersigned groups call on Virginia to address the errors and omissions identified in this letter and in EIP’s report, and to further make proactive moves to better understand and control emissions from this emerging industry in the future.

Please contact Patrick Anderson at panderson@powellenenvironmentallaw.com or (470) 440-1124 to respond to our request or to obtain additional information. We thank you for your leadership on the environment and your concern for the health and well-being of Virginia's citizens.

Sincerely,

Eric Schaeffer, Executive Director
Keri N. Powell, Of Counsel
Patrick J. Anderson, Of Counsel
Environmental Integrity Project

Emily Zuchino
Community Network Manager
Dogwood Alliance

Annie Beaman
Director of Advocacy & Outreach
Our Children's Earth Foundation

Dr. Mary S. Booth
Director
Partnership for Policy Integrity

Sami Yassa
Senior Scientist
Natural Resources Defense Council

CC:

Matthew J. Strickler, Secretary of Natural Resources (by email at matthew.strickler@governor.virginia.gov);
David K. Paylor, Director, Virginia DEQ (by email at david.paylor@deq.virginia.gov);
Michael Dowd, Director, Air Division, Virginia DEQ (by email at Michael.Dowd@deq.virginia.gov);
Tamara M. Thompson, Manager, Office of Air Permitting, Virginia DEQ (by email at Tamera.Thompson@deq.virginia.gov);
Todd Alonzo, Manager, Office of Air Compliance Coordination (by email at Todd.Alonzo@deq.virginia.gov).