

Clean Air Carolina | Concerned Citizens of Richmond County | Concerned Citizens of Northampton County | Dogwood Alliance | Environmental Integrity Project | Medical Advocates for Healthy Air | Natural Resources Defense Council | Our Children's Earth Partnership for Policy Integrity

April 26, 2018

The Honorable Roy A. Cooper III
North Carolina Office of the Governor
20301 Mail Service Center
Raleigh, NC 27699-0301

Dear Governor Cooper:

We, the undersigned community and environmental groups who work to protect the health and wellbeing of North Carolina's citizens and environment, call on North Carolina officials to address the dangerous and unlawful air pollution emitted by wood pellet plants in the state, including taking the specific steps set forth in this letter to address existing deficiencies and to take proactive measures in the future to address new facilities.

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 North Carolina, emits vast amounts of unlawful air pollution and systematically evades Clean Air Act requirements to reduce that pollution. These factories, including three existing plants and one under construction in North Carolina, 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. EIP's report reveals that this new industry emits dangerous levels of air pollution right here in North Carolina. In fact, North Carolina is home to the dirtiest and least-controlled pellet mills in the nation.

None of the four pellet mills operating or under construction in North Carolina—all owned by Enviva Biomass—utilize any controls to reduce emissions of hazardous air pollutants and volatile organic compounds. With the exception of another Enviva plant just across the border in Virginia, **the North Carolina wood pellet mills are the only large mills in the nation that do not use any controls to reduce hazardous air pollutants and volatile organic compound emissions.** Every other facility operating on a similar scale uses some form of thermal oxidizing technology to reduce these emissions. Thermal oxidizers reduce hazardous air pollutants and volatile organic compounds by at least 90%, and sometimes by as much as 99%.

Hazardous air pollutants are those pollutants which EPA has identified as especially toxic or carcinogenic even in small amounts. They are the most tightly regulated pollutants under the Clean Air Act. The North Carolina pellet mills emit vastly more hazardous air pollution than any other mills in the nation due to their lack of pollution controls. Enviva Sampson, which is east of Fayetteville and is Enviva's newest pellet mill, emits 110,000 pounds of acetaldehyde, methanol, and formaldehyde combined per year—which is 50 times higher than a comparable facility in Georgia that uses thermal oxidizers. The Enviva Hamlet plant, currently under construction in

Richmond County, will be allowed to emit the same high levels of acetaldehyde, formaldehyde, and methanol. EPA lists acetaldehyde and formaldehyde as probable human carcinogens, and both cause additional short term respiratory problems and chronic symptoms result from long term exposure. The health risks of methanol emissions, meanwhile, include decreased gestation time, incidents of severe wasting syndrome, and lower results on infant IQ exams. North Carolina must require that these facilities install control devices which are universal at large pellet mills in the U.S. South and reduce these emissions by 95% or more.

Volatile organic compounds (VOCs) are another air pollutant of significant concern. Once in the atmosphere, VOCs combine with sunlight to produce ground-level ozone, a major constituent of smog. Breathing ozone can trigger a variety of health problems, particularly for children, the elderly, and people of all ages who have lung diseases such as asthma. Each of Enviva’s North Carolina mills emits more than 300 tons of VOCs per year, and the Enviva Sampson and Enviva Hamlet will emit more than 620 tons of VOCs per year when operating at full capacity. For comparison, a *larger* pellet operation in a neighboring state, Georgia Biomass, emits just 130 tons of VOCs per year because it uses thermal oxidizer control technology. If the North Carolina mills installed the same technology, they would each emit less than 90 tons of VOCs per year.

Lack of Pollution Controls Means North Carolina Pellet Mills Emit Hundreds of Tons of Unnecessary Volatile Organic Compound (VOC) Pollution				
Facility	State	Production Capacity	VOC Controls on Wood Dryer?	Dryer VOC Emissions (in tons per year)
Enviva Sampson	NC	535,000	No	306
Enviva Hamlet (under construction)	NC	535,000	No	306
Enviva Ahoskie	NC	420,000	No	164
Enviva Cottondale	FL	821,000	Yes (RTO)	136
Enviva Northampton	NC	628,179	No	135
Drax LaSalle	LA	500,000	Yes (RTO)	128
Enviva Southampton	VA	535,000	No	122
Georgia Biomass	GA	826,000	Yes (RTO)	55
Zilkha Monticello (permitted)	AR	661,000	Yes (RTO)	51
Hazlehurst	GA	525,600	Yes (Thermal Oxidizer)	32
Highland Pellets	AR	500,000	Yes (Thermal Oxidizer)	22
Highland Pellets South (proposed)	AR	500,000	Yes (Thermal Oxidizer)	22
German Pellets	TX	578,000	Yes (RTO)	21
Westervelt	AL	320,000	Yes (RTO)	20
Colombo	SC	669,000	Yes (RTO)	13
Zilkha	AL	300,000	Yes (RTO)	9
Drax Amite	MS	578,000	Yes (RTO)	7
Drax Morehouse	LA	500,000	Yes (RTO)	6

Adopted from EIP’s report, this table lists the 18 existing or planned pellet mills in the nation that produce more than 300,000 tons of wood pellets per year. North Carolina mills are major outliers because they do not use any VOC controls whatsoever. Note: RTO = regenerative thermal oxidizer.

North Carolina wood pellet mills also emit substantial amounts of deadly particulate matter. Combined, the three existing pellet mills emit more than 700,000 pounds of particle pollution per year. With the addition of the new Enviva Hamlet plant, the four facilities will emit well over one million pounds of particle pollution per year.

North Carolina must revisit the existing permits for the four wood pellet mills and require the facilities to reduce their dangerous air emissions. Further, North Carolina must ensure that any future facilities fully comply with the Clean Air Act. In particular, the undersigned groups call on North Carolina officials to immediately take the following steps to address the unlawful air pollution identified in EIP's report:

- 1. Require the use of pollution controls for VOCs and hazardous air pollutants at the existing Enviva plants.** None of these four North Carolina wood pellet mills have installed any VOC or hazardous air pollution controls, in plain contravention of the Clean Air Act. North Carolina must revise permits for these facilities as follows:

Enviva Northampton. As explained in public comments on Northampton's draft Title V operating permit (which DEQ has not yet finalized), the facility triggered major New Source Review permitting requirements in 2015 when it requested and obtained the removal of permit limits designed to enable the facility to avoid such requirements. Accordingly, North Carolina should have required Enviva to undergo New Source Review permitting at that time. North Carolina should include a compliance schedule in Northampton's Title V permit requiring Enviva to apply for a major New Source Review permit, which will entail performing a best available control technology analysis. A legitimate analysis should result in the selection of thermal oxidizers as the best available controls for Enviva Northampton. The facility was also a major source of hazardous air pollution when built and continues to be. Therefore North Carolina must also require Enviva to employ maximum achievable control technology to reduce the facility's hazardous air pollutant emissions. As with New Source Review, a legitimate technology analysis should result in the selection of thermal oxidizers to control hazardous air pollutants.

Enviva Ahoskie. North Carolina did not regulate Enviva Ahoskie as a major source when it was initially constructed and has never required Enviva to perform source testing for hazardous air pollution. Based on a review of emissions testing at similar wood pellet facilities, Enviva Ahoskie has emitted major-source levels of hazardous air pollutants since it was constructed.¹ These tests occurred while facilities processed a wide range of hardwood and softwood (Enviva claims that processing hardwood reduces hazardous air pollution, but these tests strongly refute that claim). All of these tests indicate that Enviva Ahoskie emits at least 35 tons of total hazardous air pollution per year, well above the major source thresholds, and has done so since it was built. North Carolina must require a

¹ EIP surveyed HAP emissions from testing at Appling County Wood Pellets (processing 70%, 80%, and 100% hardwood), Enviva Wiggins (processing 40% hardwood), and Enviva Sampson (processing 25% hardwood). Emission factors from each of these tests place Enviva Ahoskie's initial and current emissions well above the major source threshold.

maximum achievable control technology analysis, which, if done properly, should result in the selection of thermal oxidizers as the hazardous air pollutant control technology.

Enviva Sampson and Enviva Hamlet. Both of these plants were initially permitted as “major” sources of hazardous air pollutants and were required to perform a case-by-case analysis to determine maximum achievable control technology. However, Enviva still managed to avoid installing pollution controls by arguing that it planned to use a “low emitting” wood dryer that is distinct from wood dryers in use at facilities in other states. By convincing North Carolina to treat its so-called “low emitting” dryers as a separate category, Enviva eliminated the need to consider the controls used at other facilities as part of its maximum available control technology analysis. This allowed Enviva to successfully claim that they did not need to install any controls. Unfortunately, recent emissions testing at the plant revealed that the wood dryer actually emits 50 times more total hazardous air pollution and 70 to 300 times more formaldehyde and acetaldehyde than similar wood pellet plants that use controls. Given that Enviva Sampson’s wood dryer can hardly be called “low emitting,” North Carolina should require the installation of actual controls that satisfy the Clean Air Act’s maximum achievable control technology requirement—controls used by all of Enviva’s competitors.

The Enviva Sampson tests also revealed that the facility needs to make substantial operating changes to the dryer to reduce VOC emissions to within permitted limits. These changes must be incorporated into Enviva Sampson’s permit in order to ensure the facility does not exceed its emissions limits (these modifications are likely necessary for Enviva Hamlet’s permit as well, because that facility’s dryer appears to be identical). In particular, after the first round of tests showed Enviva Sampson was violating its emission limits for VOCs, Enviva Sampson “decided it was necessary to plug 128 overfire air nozzles to increase the overfire air velocities and improve mixing in the furnace” in order to reduce emissions. The second test, conducted after this modification, showed emissions were lower but were still exactly at the permitted limit, meaning compliance was deemed “Inconclusive.” At a minimum, North Carolina must revise the facility’s permit to require that it operate with at least the 128 overfire air nozzles plugged, and to take further steps to reduce VOC emissions such that compliance can be conclusively shown.

Finally, these tests showed that the facility could not comply with its permit limit for carbon monoxide (CO) emissions. North Carolina must hold the facility accountable for compliance with the CO limit, including requiring the facility to install additional controls as needed to meet the limit. Notably, a regenerative catalytic oxidizer would reduce not only CO emissions, but also VOC and hazardous air pollution emissions dramatically.

- 2. Reduce the risk of fires and explosions by requiring facilities to comply with their general duty under the Clean Air Act to design and maintain a safe facility.** Fires and explosions from wood dust plague the industry, and can burn for weeks at a time, emitting vast amounts of dangerous air pollution. For instance, at a wood pellet facility in Port Arthur, Texas, a fire burned for more than 50 days, resulting in many nearby residents

seeking medical attention for smoke and soot-related symptoms. Enviva itself has had fires at Enviva Ahoskie in North Carolina, as well as at its facilities in Virginia and Florida. North Carolina should utilize Clean Air Act section 112(r), the “General Duty Clause,” to require the pellet mills to demonstrate that they have designed and are managing their facility to minimize the risk of dangerous fires and explosions. North Carolina should incorporate specific conditions in each facility’s Title V operating permit that are sufficient to assure that the facility is controlling and managing wood dust in a manner that satisfies the General Duty Clause.

3. Require that future permits for new facilities or modifications at existing facilities ensure compliance with the Clean Air Act. While the undersigned groups oppose the future construction or expansion of pellet mills in North Carolina due to the heavy impacts placed on the community and the environment, if North Carolina does issue new permits, the state must implement the following steps to assure that these facilities fully comply with the Clean Air Act:

- a. Require any new “major” wood pellet mill to install and utilize the best available control technology.** As EIP’s report reveals, many pellet mills with major source permits such as Enviva Sampson and Enviva Hamlet 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. North Carolina must not reward companies for refusing to install controls that would reduce facility emissions to minor levels. Rather, consistent with Clean Air Act requirements, North Carolina 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 North Carolina facilities.
- b. Ensure Communities are Notified of and Able to Participate in Permitting Decisions.** North Carolina did not issue any public notice or opportunity to comment on the construction of Enviva Northampton or Enviva Ahoskie. Communities living near these facilities had no warning that major sources of air permitting would be locating in their backyard because North Carolina’s regulations do not require public notice for facilities that emit “minor” levels of air pollution. The problem is, both facilities initially promised to emit only minor levels of air pollution, but when this didn’t fit Enviva’s business model, they then applied to North Carolina DEQ to be able to emit major levels of air pollution. North Carolina DEQ complied with the request, allowing these facilities to nearly double VOC emissions, but again did not issue any public notice. The public also lacked an adequate opportunity to provide input for the permit for Enviva Hamlet in Richmond County after North Carolina inexplicably refused to hold a public hearing despite a clear legal mandate to do so. North Carolina must revise its rules

and practices for public notice, public comments, and public hearings to allow for meaningful input from the communities most impacted by these facilities.

- c. 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 works to protect citizen’s health and the environment when state agencies are fully implementing all of the Act’s requirements. The North Carolina DEQ under prior administrations clearly dropped the ball, allowing the construction of the worst-polluting wood pellet plants in the nation. Recognizing your own commitment to the environment evidenced by your pledge to uphold the Paris Climate Accord, we hope you will swiftly address the severely flawed permits that allow wood pellet manufacturing facilities in North Carolina to emit vastly greater levels of air pollution than facilities in neighboring states.

Please contact Patrick Anderson at panderson@powellenvironmentallaw.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 North Carolina’s citizens.

Sincerely,

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