



October 20, 2017

By Electronic Mail to <yuki.puram@ncdenr.gov>

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Division of Air Quality
Permitting Program
217 West Jones Street
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RE: Comments on Draft Title V Air Operation Permit No. 10203T06 for Enviva Pellets Northampton, LLC, Northampton Wood Pellet Plant, Garysburg, Northampton County, North Carolina.

Dear Division of Air Quality:

On behalf of Clear Air Carolina, Medical Advocates for Healthy Air, Dogwood Alliance, Toxic Free North Carolina, Partnership for Policy Integrity, Natural Resources Defense Council, Our Children's Earth, Center for Biological Diversity, James Woodley, and itself, Environmental Integrity Project hereby submits these comments on the draft Clean Air Act Title V Air Operation Permit (Draft Permit No. 10203T06) for **Enviva Pellets Northampton, LLC, Northampton Wood Pellet Plant, Garysburg, Northampton County, North Carolina**, prepared by the North Carolina Department of Environmental Quality (DEQ). The Northampton Wood Pellet Plant (hereinafter, "Enviva Northampton") is a wood pellet manufacturing facility with a 715,779 ton-per-year (tpy) pellet production capacity and is located at 874 Lebanon Church Road.¹ The public notice announcing availability of this draft Title V permit for public review and comment was published on September 20, 2017. We are submitting these comments by the public comment deadline for the draft Title V permit of October 20, 2017. As explained below, deficiencies in the draft permit and accompanying statement of basis make the draft permit inadequate to assure the facility's compliance with applicable Clean Air Act requirements. We respectfully request that you amend the draft permit to address our concerns and release the revised version of the permit for a new public comment period.

Additionally, due to North Carolina Department of Environmental Quality's refusal to provide reasonable access to permit applications and other supporting documents in a timely manner, we

¹ Capacity is based on the facility's hammermill and pellet cooler throughput of 81.71 tons per hour and operations of 8,760 hours per year. See Permit Review for Permit No. 10203R04 at 4.

also respectfully request that the Department extend the current public comment period to allow for adequate public notice and comment.

I. The Draft Permit Fails to Assure the Facility’s Compliance with Prevention of Significant Deterioration (PSD) Requirements.

A. North Carolina DEQ’s 2015 Removal of Limits Designed to Restrict the Facility’s Emissions Below the PSD Applicability Threshold Triggered PSD Review as Though Construction Had Never Commenced.

The draft permit is deficient because it fails to require the facility to comply with PSD review requirements set forth at Title 15A North Carolina Administrative Code, Subchapter 2D, Section .0530 (15A NCAC 2D .0530), including emission limits that represent the use of best available control technology. Specifically, as discussed in more detail below, while the facility initially avoided PSD review in 2012 by accepting enforceable operating limits that restricted its volatile organic compound (VOC) emissions to less than the 250 tons per year (tpy) PSD applicability threshold, North Carolina DEQ removed those limits from Enviva’s permit in 2015. Elimination of those enforceable operating restrictions should have triggered PSD review as though construction had never commenced on the facility.

At the time that Enviva initially applied to construct the Northampton plant, it chose to avoid PSD review by accepting an annual limit of 249 tpy on its volatile organic compound (VOC) emissions, among other pollutants. To make the VOC emissions limit enforceable, Enviva agreed to restrict the softwood content of its raw material to 10% (with the other 90% being hardwood), and also to dry pellets to no less than 13% moisture content.² Because softwood releases significantly higher VOC emissions than hardwood during the drying and pelletizing process, Enviva calculated that restricting the softwood percentage of its raw materials to 10% and drying the wood to no less than 13% moisture content would ensure that facility-wide VOC emissions stayed below the 249 tpy potential to emit (PTE) limit. Both the 10% softwood limit and the drying limit of 13% moisture are listed as “Avoidance Conditions” for “Prevention of Significant Deterioration” in construction permit no. 10203R00, issued by North Carolina DEQ on March 9, 2012.³ The permit contains no limit on operating hours or total wood pellet production; rather, the 10% softwood limit and 13% moisture limit were the only enforceable limits restricting the facility’s PTE to below the PSD applicability threshold (presumably, based on a demonstration that facility-wide VOC emissions would remain below 249 tpy even if the facility operated at full capacity so long as the facility complied with these restrictions⁴). The softwood content and drying limits also appear in subsequent revised permits (Permit Nos. 10203R01, 10203R02, and 10203R03).

In 2015, Enviva applied for a construction permit to modify the facility. In its permit application, Enviva requested to “[i]ncrease the softwood content in the dryer, hammermill, and pellet

² NC Division of Air Quality, Air Permit Review for Permit 10203R00, at 5 (“As part of the avoidance condition, the facility will be limited to using no more than 10% softwood. Product moisture content shall not be less than 13%. Enviva will monitor and record the plant product rate, hardwood/softwood mix, and product moisture content. Reporting is required.”).

³ Permit 10203R00 (effective Mar. 9, 2012), at Section 2.2, Condition B.2, at 11.

⁴ As explained later in these comments, Commenters have been asking North Carolina DEQ to provide them with Enviva’s air permit applications since May 2017 but have not received them despite persistent efforts.

coolers and include a PSD avoidance limit equal to baseline VOC emissions plus 249 tons per year.”⁵ In acting on Enviva’s application, North Carolina DAQ explained:

The current permit includes a limitation for VOC emissions of less than 250 tons per consecutive 12-month period so that the facility is classified as minor with regards to PSD. The condition restricts the processing of softwood to no more than 10% on an annual basis. With this application, physical changes are proposed to debottleneck current operations and increase throughput to equipment downstream of the proposed dry line system. In order to avoid triggering PSD review, the facility will take a limit of baseline emissions plus 249 tpy.”⁶

North Carolina DEQ granted Enviva’s request and issued revised permit 10203R04. The revised permit eliminated the 10% softwood limit and the wood drying limit of 13% moisture, and increased the VOC PTE limit to 456.4 tons per consecutive 12-month period (207.4 tpy baseline plus 249 tpy PSD applicability threshold).⁷ Based on the revised VOC PTE limit, North Carolina DEQ did not require Enviva to undergo PSD review for these modifications.

NC DEQ’s failure to require the Northampton plant to undergo PSD review at the time of the 2015 permit modification was in error. Under North Carolina PSD regulations, which have been approved by EPA as part of North Carolina’s federally enforceable Clean Air Act State Implementation Plan (SIP), “[w]hen a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980 on the capacity of the source or modification to emit a pollutant ... then the provisions of [North Carolina’s PSD regulations] shall apply to the source or modification as though construction had not yet begun on the source or modification.” 15A NCAC 2D. 0530(i).⁸ The reason the Northampton Plant was able to avoid PSD review at the time of initial construction in 2012 was that it had accepted the enforceable 10% softwood limit and 13% moisture drying limit. Elimination of these limits meant that the Northampton Plant’s potential to emit VOCs skyrocketed above the applicable 250 tpy PSD applicability threshold; in other words, due to the “relaxation” of these limits in the 2015 permit action, the Northampton Plant became a major stationary source. Thus, in accordance with unambiguous language of 15A NCAC 2D. 0530, the Northampton Plant became subject to PSD “as through construction had not yet begun on the source.”

Under Revised Permit 10203R04 (and in the current draft permit under review), Enviva is no longer subject to any restriction whatsoever on how much it dries the wood or on the softwood content of its raw material. Nor did Enviva accept any other operating restriction to ensure that it

⁵ NC Division of Air Quality, Air Permit Review for Permit 10203R04, at 2. Enviva was applying the 250 tpy threshold applicable to new major stationary sources rather than the 40 tpy threshold applicable to modifications because it considered the Northampton Plant to be a synthetic minor source for PSD at the time of the proposed changes, i.e., the facility was subject to enforceable limits on its potential to emit that enabled it to be treated as a minor source. A modification to a minor source triggers PSD review only if the modification would, considered by itself, increase the facility’s potential to emit of a regulated PSD pollutant at an amount equal to or above the applicability threshold for a new major stationary source—here, 250 tpy for VOCs.

⁶ *Id.* at 3.

⁷ Permit No. 10203R04 (Effective date Oct. 12, 2015), Section 2.1, Condition A.4.

⁸ The most recent version of North Carolina’s PSD regulations includes the same language but in a different place: 15A NCAC 2D. 0530(k). Nearly identical language appears in EPA’s federal PSD regulations at 40 C.F.R. 52.21(r)(4).

legitimately avoided PSD review when initially constructed. Rather, the PSD avoidance conditions set forth in its 2015 revised permit (No. 10203R04) required only that it restrict VOC emissions to below 456.4 tpy.⁹ No operating or production limit accompanied that restriction to ensure enforceability. Rather, the new restriction simply required Enviva to demonstrate compliance by calculating VOC emissions “in a manner consistent with the calculation methodologies included in the air permit,” using emission factors “appropriate for the annual average softwood content that has been processed in the previous 12-month period.” (The current draft permit under review includes similar language but is more specific about Enviva’s obligation to track softwood content and regarding the applicable emission factors). Furthermore, there does not appear to be anything inherent to the Northampton Plant’s original design preventing it from utilizing 100% softwood, or from drying wood beyond the original restriction of 13% moisture content. Accordingly, without the softwood and drying limits, the plant’s potential to emit VOCs as originally constructed must be calculated based on the facility utilizing 100% softwood in its manufacturing process, and drying the wood to the maximum degree feasible.¹⁰

Of course, Enviva’s original PSD avoidance limits of 10% softwood content and drying to a minimum of 13% moisture content were based on the assumption that operating above those limits would cause the plant’s VOC emissions to exceed the PSD major source applicability threshold of 250 tpy. While there may have been a small buffer in these limits, the plant’s VOC emissions certainly would exceed the 250 tpy PSD threshold at far below 100% softwood content (and likely, by drying wood to a moisture content not far below the original 13% moisture limit). In fact, our calculations indicate that operations at just 12 to 15% softwood place the facility’s emissions above the 250 tpy PSD threshold.

One method to estimate VOC emissions from various ratios of softwood and hardwood is to assume that hardwoods do not emit any VOCs, and then apply emission factors developed from 100% softwood facilities to the percentage of softwood processed at the facility. Using this method underestimates VOCs because hardwoods do emit VOCs; actual emissions therefore will be higher than calculated using this method.

The Georgia Environmental Protection Division (Georgia EPD) developed emission factors for wood pellet manufacturing plants utilizing softwood based on stack testing at the Georgia Biomass facility.¹¹ For dryers like the one at Enviva Northampton which operate without a regenerative thermal oxidizer (RTO) or other VOC control equipment, Georgia EPD calculates a VOC emission factor of 6 pounds per oven dried ton of pellets (lb/ODT). Georgia EPD further

⁹ Permit 10203R04, Condition 2.1.A.4.a.

¹⁰ North Carolina has adopted by reference EPA’s definition of potential to emit (see 15A NCAC 2D. 0530(b)), which states: “Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.” 40 CFR 51.166(b)(4).

¹¹ Memorandum from Manny Patel, Georgia EPD, to Eric Cornwell, Georgia EPD, entitled “Emission Factors for Wood Pellet Manufacturing,” dated January 29, 2013 (hereinafter, “Georgia Emission Factor Memorandum”) (Attachment A).

calculates a VOC emission factor of 2.5 lb/ODT for hammermills and .5 lb/ODT for pellet coolers. This means these three sources together produce a total of 9 lb/ODT.

Applying the Georgia EPD emission factors to 10% of the initial facility capacity of 61.5 tph—which represents the 10% softwood processed there as originally permitted—results in 242 tpy of VOCs.¹² This rate is quite close to the 233.30 tpy estimated by DEQ in Permit Review R03, which is the first time VOCs from the facility’s hammermills and pellet coolers were included in a permit review.¹³ The fact that the two figures are so similar shows this method is reliable.

Most importantly, applying the Georgia EPD emission factors to a slightly higher percentage of softwood, just 12%, gives 290 tpy of VOC emissions. This shows how vital the 10% hardwood limit was to ensuring the facility stayed below the major source threshold of 250 tpy.

Thus, elimination of the softwood limit alone, without even considering the impact of North Carolina DEQ’s elimination of the drying limit, obviously converted the Northampton plant into a major stationary source for PSD.

The fact that Enviva proposed to make other changes to its Northampton Plant at the same time that it requested elimination of the softwood and drying limits does nothing to exempt Enviva from the plain language of SIP Rule 15A NCAC 2D. 0530(i) requiring it to comply with PSD. The elimination of these restrictions was not dependent on the other simultaneous changes being made to the facility. Obviously, the facility already was capable of increasing up to 100% softwood content and drying the wood to lower than 13% moisture content (if it hadn’t been capable of doing so, there would have been no need to apply these limits as PSD avoidance conditions in the first place). Thus, the effect of removing these limits must be considered separately from the other facility changes proposed in 2015. In other words, the appropriate analysis is: Did removal of the two limits that Enviva accepted to avoid PSD in 2012 result in the Northampton Plant becoming a major source for PSD? The unavoidable answer, as clearly demonstrated above, is yes. Without a softwood limit, this facility could have emitted a whopping 2400 tpy of VOCs (calculated using Georgia EPD’s wood pellet emission factors).¹⁴ Furthermore, the 2015 permit revision failed to include any other limit that could compensate for the loss of the original limits. Obviously, the facility-wide 456.4 tpy VOC limit established in the 2015 revised permit does nothing to prevent elimination of the original limits from converting the Northampton Plant to a major stationary source subject to PSD review.

Ultimately, we are not advocating that Enviva Northampton be required to operate in perpetuity using a feedstock of 90% hardwood, which would raise other environmental concerns including the excess life-cycle carbon emissions from the destruction of these forests. The use of slow-growing hardwood forests as wood pellet feedstock emits up to four times more carbon than

¹² Production rate based on dryer’s operating rate as stated in the statement of basis for the initial construction and operating permit. This assumes no additional wood was processed through the post-dryer units, which would increase emissions. North Carolina DAQ, Air Permit Review for Permit No. 10203R000, at 3 (“According to the application, the most significant source of PM emissions is the dryer system operating at 61.5 ODT/hr.”).

¹³ North Carolina DAQ, Air Permit Review for Permit No. 10203R003, at 3.

¹⁴ Applying the Georgia EPD emission factors (6 lb/ODT for dryers, 2.5 lb/ODT for hammermills, and .5 lb/ODT for pelletizers, for a total emission factor of 9 lb/ODT, see footnote 11) to the facility’s initial operating rate of 61.5 tph results in 553.5 pounds per hour of VOCs, and multiplied by 8,760 hours per year and converted to tons gives 2,424 tpy.

coal, even 40 years after the wood pellets have been burned.¹⁵ The harvesting of bottomland hardwood forests is particularly concerning because of the critical ecosystem services that will be lost if these wetland habitats are decimated. Wetland forests buffer communities from storms and floods, and remove nutrients and other pollutants from water to maintain the quality of streams, rivers, and estuaries. Destruction of hardwood forests will also deplete habitats of endangered and imperiled species, many of which are clustered in the sourcing area for the Enviva Northampton plant—an area that is part of the North American Coastal Plain, which was recently classified as the 36th Global Biodiversity Hotspot.

Instead, these comments advocate two approaches. Enviva Northampton can either take a wood pellet production limit or install air pollution controls sufficient to ensure that the facility's emissions are restricted below the PSD applicability threshold. Alternatively, Enviva Northampton must undergo full PSD review for the entire facility. These are the same options presented to every other U.S. wood pellet plant of Enviva Northampton's size. The fact that Enviva Northampton initially proposed but then abandoned plans to restrict its emissions by accepting enforceable softwood and drying limits does not justify giving the Northampton Plant a free pass from complying with federally enforceable PSD requirements.

B. Because the 2015 Removal of Northampton's Enforceable VOC Potential-to-Emit Limits Make the Plant a Major Source from the Time of Initial Construction, the Other Changes Made to the Facility in 2015 Triggered PSD Review as a Modification to a Major Source.

Because the 2015 elimination of the 10% softwood limit and 13% moisture content drying limit required the facility to be treated as a major source for PSD since the time of construction, the other changes made to the facility in 2015 also should have undergone PSD review as modifications to a major stationary source. Each of the modifications authorized by the 2015 permit individually caused increases in the facility's PTE for VOC emissions above the significance threshold of 40 tpy, meaning they were major modifications.¹⁶ To avoid PSD for these changes, the facility would have needed to take a baseline plus 39.9 tpy limit, rather than a baseline plus 250 tpy limit.

One change authorized by the 2015 permit was to debottleneck the dryer to increase capacity to 71.71 tph.¹⁷ Previously, the dryer had operated at 61.5 tph, meaning the modification represented an increase of about 10 tph.¹⁸ Because NC DEQ eliminated the 10% softwood limit in the 2015 permit action, projected actual emissions from this change had to be calculated assuming use of up to 100% softwood. At even 20% softwood, the additional 10 tph resulted in

¹⁵ UK Department of Energy and Climate Change, Life Cycle Impacts of Biomass Electricity in 2020 at 12-13 (July 2014) (Attachment B).

¹⁶ PSD regulations require that any major source for PSD which makes a major modification go through a new PSD review for that modification. 40 CFR 51.166(a)(7), adopted by reference at 15 NCAC 02D .0530(g). The PSD regulation further define a major modification to be one which causes a significant emissions increase for any regulated NSR pollutant. 40 CFR 51.166(b)(2)(i), adopted by reference at 15 BCAC 02D .0530(b). For VOCs, the limit to be a significant increase is 40 tpy. 40 CFR 51.166(b)(23)(i), adopted by reference at 15 NCAC 02D .0530(g).

¹⁷ North Carolina DAQ, Air Permit Review for Enviva Northampton Permit No. 10203R04 at 2.

¹⁸ North Carolina DAQ, Air Permit Review for Enviva Northampton Permit No. 10203R00 at 3.

52 tpy of VOCs, exceeding the 40 tpy PSD threshold.¹⁹ As indicated in the draft permit, Enviva intends to utilize a significantly higher softwood content than 20%—the table on page 9 of the current draft permit provides emission factors for up to 30 percent softwood in the dryer (and up to 45% softwood in the pellet cooler), and authorizes the facility to utilize a higher softwood percentage if it establishes appropriate emission factors.

The other change authorized by the 2015 revised permit was to authorize installation of a dry line conveyor system and the associated addition of 10 tpy of pre-dried 100% softwood to the pelletizing process (added after the dryer but prior to the hammermill and pelletizers).²⁰ This change also increased facility emissions by more than the 40 tpy PSD applicability threshold applicable to a modification to a major stationary source. Applying the Georgia Biomass emission factors for 100% softwood to this stream gives an additional 131 tpy of VOC emissions.

In sum, even if the two facility changes described above were each considered independently, they each resulted in a VOC emission increase that exceeded the 40 tpy PSD significance threshold and should have been subject to PSD review as major modifications to a major stationary source. Accordingly, the current draft permit is deficient because it fails to apply PSD requirements to these changes.

C. North Carolina DEQ Has Not Provided Adequate Justification for Failing to Require Emission Testing and Source-Specific Emission Factors to Demonstrate Compliance with the Draft Permit’s PSD Avoidance Conditions.

As explained above, the “PSD Avoidance” conditions in Enviva Northampton’s permit are fundamentally inadequate to enable the facility to avoid PSD review for both initial construction and the subsequent facility modifications. Even if these conditions constituted a legally appropriate means for the facility to avoid PSD, however, North Carolina DEQ has not provided a reasoned explanation as to why the emission factors specified in the draft permit on page 9 provide an accurate measurement of the facility’s emissions. Specifically, rather than requiring Enviva to undertake testing to develop source-specific emission factors, the draft permit instructs Enviva Northampton to calculate its monthly and annual VOC emissions—crucial aspects of ensuring compliance with the PSD avoidance limit—based on emission factors taken from stack testing at the Enviva Ahoskie plant, without any adjustment for differences between the facilities. As shown below, serious differences between the facilities demonstrate that the stack testing at Enviva Ahoskie is inadequate to calculate emissions at Enviva Northampton. More worryingly, the emission factors are likely underestimating the true emission rates at the facility. North Carolina DEQ can remedy these defects by requiring emissions testing for all of the major emission sources at Enviva Northampton, in particular the dryer, the hammermills, and the pelletizing lines.

As an initial matter, the emission factors and test limits for softwood listed in Condition 2.2.A.1.d.ii of the draft permit have transcription errors, as acknowledged by permit writer Yuki

¹⁹ Calculated in the same manner as described in detail above in Part I.A., i.e. applying the Georgia Biomass emission factor to the percentage of softwoods processed.

²⁰ North Carolina DAQ, Air Permit Review for Enviva Northampton Permit No. 10203R004, at 2.

Puram.²¹ The maximum softwood content and VOC emission factors correspond to incorrect emission sources as compared to the original source testing document from Enviva Ahoskie.²² Although we believe, as demonstrated below, that these emission factors are inaccurate to begin with, North Carolina DEQ must at least correct these errors to allow the facility to calculate emissions consistent with the North Carolina DEQ's intent.

1. Significant Differences Exist Between Enviva Northampton and Enviva Ahoskie.

As noted above, North Carolina DEQ made zero adjustments to the Enviva Ahoskie emission factors to account for design or operational differences between Enviva Ahoskie and Enviva Northampton. However, the differences between these two plants are substantial and impact VOC emissions significantly. North Carolina DEQ offers no explanation for why the Enviva Ahoskie emission factors, without adjustment, are adequate for use in demonstrating the Northampton Plant's compliance with the PSD avoidance limit.²³

Most significantly, Enviva Northampton processes an additional 10 tons per hour of pre-dried softwood that feeds directly into the hammermills and pelletizers. Enviva Ahoskie, meanwhile, did not process this additional softwood at the time of testing.²⁴ As explained below, softwood emits substantially more VOCs than hardwood, yet North Carolina DEQ has not explained how they account for this additional softwood when applying the Enviva Ahoskie emission factors to the facility.

Other differences between the two facilities include the fact that Enviva Ahoskie's wood dryer operates at 125 MMBtu, while Enviva Northampton operates at 174 MMBtu.²⁵ The facilities are also located in different regions and therefore source distinct species of wood, which is significant because various species of wood emit varying levels of VOCs and hazardous air pollutants.²⁶ Finally, the facilities operate on significantly different scales. At the time of the testing at Enviva Ahoskie, the facility operated at 358,284 tpy, while Enviva Northampton operates at 715,779 tpy, almost double the capacity of Enviva Ahoskie.²⁷ While emission factors generally scale with operating rates, the substantial difference in operating capacity suggests fundamental differences in design and operations between the two facilities. All of the above factors contribute to important differences in emission rates between the two facilities, and North Carolina DEQ cannot simply ignore these differences.

²¹ E-Mail from Yuki Puram, North Carolina DEQ, to Patrick Anderson, Powell Environmental Law, September 21, 2017 (Attachment C).

²² Memorandum dated March 25, 2015, re Stack Testing at Enviva Ahoskie, from Shannon Vogel, North Carolina DEQ, Stationary Source Compliance Branch, to Robert Fisher, North Carolina DEQ, Washington Regional Office (Attachment D).

²³ Draft Permit Condition 2.2.A.1.d.ii, at pg 9.

²⁴ See Enviva Ahoskie Air Permit No. 10121R003, which authorized a modification to process pre-dried softwood. This permit was issued May 22, 2015. The Enviva Ahoskie stack testing occurred in June and July of 2014.

²⁵ Permit review for Enviva Ahoskie's Permit No. 10121R00, December 7, 2010, at 1; Permit Review for Enviva Northampton's Permit No. 10203R00, March 9, 2012, at 2.

²⁶ Milota, Michael, "Emissions from Wood Drying: the Science and the Issues," Forest Products Journal, 2000, Issue 50(6) (Attachment E); Milota, Mike and Mosher, Paul, "Emissions of Hazardous Air Pollutants from Lumber Drying," Forest Products Journal, July 2008 Issue 7/8, at 50-55 (Attachment F).

²⁷ Enviva Ahoskie stack test memorandum, *supra* at footnote 22; Permit Review for Enviva Northampton's Permit No. 10203R04, October 12, 2015, at 4.

2. The Emission Factors Underrepresent VOC Emissions at the Facility.

Considerable evidence suggests that the emission factors derived from the Enviva Ahoskie testing underestimate Enviva Northampton's true VOC emissions. An important point in understanding VOC emissions is that softwoods emit substantially more VOCs than hardwoods, including when the wood is processed in hammermills and pelletizers. The emission factors from Enviva Ahoskie, however, seem to underestimate hammermill and pellet cooler emissions emitted from the softwood percentage of the pellets, and the emission factors are substantially lower than other emission factors for other wood pellet manufacturing plants, including those based on stack testing. For example, the emission factors calculated by Georgia EPD based on testing of VOC emissions from softwood at the Georgia Biomass facility are widely relied upon as the benchmark for measuring wood pellet plant emissions.²⁸ These emission factors have been verified by testing at similar facilities, and several states have subsequently adopted these emission factors for their own permitting decisions.²⁹ Though these tests were conducted at 100% softwood, they can be scaled to estimate emissions at Enviva Northampton.³⁰ When this is done, they are much higher than the Enviva Ahoskie factors. For hammermills, Georgia EPD's emission factor is 2.5 lb/ODT, and when scaled to 30% softwood produces an emission factor of .75 lb/ODT.³¹ This is almost 10 times higher than the Enviva Ahoskie emission factor of .093 lb/ODT. Although not as dramatic, the Enviva Ahoskie emission factor for pellet coolers is also low, at .457 lb/ODT, compared to .58 lb/ODT from the scaled Georgia EPD emission factor.

The Enviva Wiggins facility in Mississippi, which operated at 59% softwood when tested, also has emission factors which, when scaled to match the corresponding softwood rate, are much higher than those from Enviva Ahoskie.³² Enviva Wiggins tested three points in the post drying operation: the hammermills, pellet presses, and pellet coolers, while Enviva Ahoskie combined the tests for pellet presses and pellet coolers. The best comparison, therefore, is to look at the total emission factor for all of the post-dryer units. At Enviva Ahoskie, this number is .55 lb/ODT, while at Enviva Wiggins this number, as scaled to 30% softwood, is 1.05 lb/ODT.³³

²⁸ Memorandum from Manny Patel, Georgia EPD, to Eric Cornwell, Georgia EPD, entitled "Emission Factors for Wood Pellet Manufacturing," dated January 29, 2013 (Attachment A).

²⁹ In addition to Georgia, the Georgia EPD emission factors have been accepted and utilized in South Carolina and Alabama, and Florida has conducted stack testing showing very similar results to the Georgia Biomass testing. See Statement of Basis for Carolina-Pacific Briquetting (July 28, 2015), at 1-2 (Attachment G); Statement of Basis for AEC Pellet 1 (Mar. 16, 2015) (Attachment H), Alabama Department of Environmental Management, Memorandum, "Meeting With Westervelt Pellets I LLC Alliceville Facility No. 409-0010 (April 3, 2014) (Attachment I); and Technical Evaluation & Preliminary Determination for Green Circle Bio Energy (August 6, 2013) (Attachment J).

³⁰ Scaled based on methods utilized by Joe Harrell of Enviva. See Memorandum dated July 15, 2013, Re: Stack Testing at Enviva Wiggins, from Shannon Vogel, North Carolina DEQ, Stationary Source Compliance Branch, to Patrick Butler, Raleigh Regional Office (Attachment K). Mr. Harrell's method to scale The Wiggins emission factor from 59% softwood to 10% softwood is to simply divide the emission factor by 5.9; in other words, if softwoods increase from 10% to 59%, a 5.9 times increase, the emission factor likewise increases 5.9 times. This method appears to ignore VOCs from hardwood and is likely lower than actual VOC emission rates, for instance this method calculates that at 100% hardwoods there are no VOC emissions.

³¹ Implementing Mr. Harrell's method, the scaling assumes that a 70% reduction in softwoods corresponds to a 70% reduction in the softwood emission factor.

³² Memorandum dated July 15, 2013, Re: Stack Testing at Enviva Wiggins, from Shannon Vogel, North Carolina DEQ, Stationary Source Compliance Branch, to Patrick Butler, Raleigh Regional Office (Attachment K).

³³ Scaled in the same manner as described *supra* at footnote 30. Enviva Ahoskie individual emission factors: hammermills = .093 lb/ODT, pellet coolers and pellet presses tested together = .457 lb/ODT. Enviva Wiggins

The difference in emission factors produces staggeringly different VOC emissions. While the Enviva Ahoskie factor gives an emission rate of 33 tpy for the hammermills, the scaled Georgia Biomass factor results in 268 tpy from the hammermills.³⁴ For the entire post-dryer operations, Enviva Ahoskie emission factors give 196 tpy, while Enviva Wiggins emission factors produce 375 tpy.³⁵ Despite the huge gap between these emission rates, North Carolina DEQ provides no explanation for why the Enviva Ahoskie emission factors are adequate for use at Enviva Northampton.

North Carolina DEQ is also likely underestimating the wood dryer VOC emissions at Enviva Northampton. When Enviva Northampton conducted stack tests, it resulted in a VOC emission rate of .724 lb/ODT.³⁶ This testing occurred at a softwood rate of 6%, yet the Enviva Ahoskie stack test, which is the current emission factor in the draft permit, produced an emission factor of just .784 lb/ODT at 30% softwood.³⁷ In other words, North Carolina DEQ believes that Enviva Northampton emits essentially the same level of VOCs at 30% softwood as it did at 6%. Given how rapidly VOCs increase with softwood processing, this is simply not plausible.³⁸ Logically, a five-fold increase in softwoods, i.e. the difference between 6% and 30% softwoods, should be accompanied by a similar increase in VOC emissions. Again, applying the Georgia Biomass emission factors, scaled to 30%, gives an emission factor of 1.8 lb/ODT, resulting in 565 tpy of VOCs, compared to 246 tpy based on the Enviva Ahoskie emission factor.³⁹ North Carolina DEQ again, however, fails to explain why the Enviva Ahoskie stack testing is adequate to calculate dryer emissions at Enviva Northampton.

Finally, the permit review for the original state construction permit states that “exhaust from the pellet press and associated conveyors are vented to the atmosphere.”⁴⁰ If this is true, then North Carolina DEQ has been massively underestimating VOC emissions from the pellet presses. Nothing in the permit record accounts for any pellet press emissions, yet facilities which test pellet presses (as distinct units from pellet coolers) show large levels of VOC emissions from pellet presses.⁴¹ North Carolina DEQ must explain whether the pellet presses exhaust to the atmosphere or instead are routed to other units, and if the answer is the former, North Carolina DEQ must properly account for Enviva Northampton’s pellet press emissions.

individual emission factors scaled to 30%: hammermills = .27 lb/ODT, pellet presses = .75 lb/ODT, pellet coolers = .06 lb/ODT.

³⁴ Total tons per year calculated from hourly production rate (for the dryer this is 71.71, for the hammermills and pellet coolers this is 81.71 tons per hour, see Permit Review R04), multiplied by the emission factor to get pounds per hour of VOCs, divided by 2,000 to get tons per hour of VOCs, and finally multiplied by 8,760 hours per year.

³⁵ *Id.*

³⁶ Memorandum dated March 20, 2014, Re: Stack Testing at Enviva Northampton, from Shannon Vogel, North Carolina DEQ, Stationary Source Compliance Branch, to Patrick Butler, Raleigh Regional Office (Attachment L).

³⁷ Memorandum dated March 25, 2015, re Stack Testing at Enviva Ahoskie, from Shannon Vogel, North Carolina DEQ, Stationary Source Compliance Branch, to Robert Fisher, North Carolina DEQ, Washington Regional Office (Attachment D).

³⁸ Compare, for instance, AP-42 emission factors for particle board dryers at 100% softwood of 4.9 lb/ODT to 100% hardwood at .24 lb/ODT. (AP-42 § 10.6.2, Table 10.6.2-3).

³⁹ Georgia EPD emission factor for softwood without an RTO is 6 lb/ODT, annual rate at Northampton based on operating capacity of 71.71 tph.

⁴⁰ Permit Review for Enviva Northampton’s Permit No. 10203R00, October 12, 2015, at 2.

⁴¹ *See, e.g.*, Enviva Wiggins stack test, showing an emission factor of 1.47 lb/ODT for pellet presses, and showing that pellet presses emit more VOCs than hammermills or pellet coolers. (Attachment K).

Given all of these uncertainties about VOC emissions, North Carolina DEQ cannot blindly rely on the Enviva Ahoskie emission factors. Instead, North Carolina must require testing of all the major emission units at Enviva Northampton, including the hammermills, pellet coolers, and if they are emitting directly to the atmosphere, the pellet presses as well. Further, with the significant changes in operation authorized in 2015, North Carolina should require testing on the dryer to obtain source-specific emission factors which represent current operations.

D. North Carolina DEQ Improperly Failed to Account for Startup, Shutdown and Malfunction Emissions in Establishing the Permit Conditions Designed to Assure Compliance with the Permit's PSD Avoidance Conditions.

Notably absent from the draft permit is any condition addressing how emissions from startup, shutdown, and malfunctions (SSM) are accounted for in determining the facility's compliance with the VOC and carbon monoxide (CO) PTE limits meant to enable the facility to avoid PSD review for its 2015 modifications. A PTE limit applies at all times to all of a facility's emissions, including during SSM events.⁴² Emissions from these events will include VOCs and CO, and thus must be accounted for in determining the facility's compliance with its PTE limit. Although Section 2.2, Condition a.1 states that the facility will be deemed in noncompliance with 15A NCAC 02D .0530 (the PSD regulations) if "emissions exceed the above limits," nothing in the emissions calculation specified in the draft permit accounts for higher-than-normal emissions during startup, shutdown, or malfunction. Nor does North Carolina DEQ provide any information suggesting that the emission factors specified in the draft permit somehow account for such emissions (and it is virtually impossible that they do, since source testing takes place under normal operation modes). Unless the facility is proactively monitoring and recording emissions from these events, it is unlikely that North Carolina DEQ, citizens, or even Enviva would ever be able to know whether SSM events have caused a violation of the PTE limits. To remedy this, DEQ must add conditions to the permit specifically requiring the facility to track emissions from SSM events and account for them in determining compliance with the permit's PTE limits.

II. The Draft Permit Fails to Assure the Facility's Compliance with Maximum Achievable Control Technology Requirements (MACT) for Hazardous Air Pollutants (HAPs).

A. The Enviva Northampton Plant was a Major Source of Hazardous Air Pollutants as Originally Permitted and Constructed, and Should Have Gone Through a Case-by-Case MACT Review.

⁴² *In re Piedmont Green Power, LLC*, Order on Petition, Petition No. IV-2015-2 (Dec. 13, 2016), at 8. *See also In re Hu Honua Bioenergy Facility*, Order on Petition No. IX-2011-1 (Feb. 7, 2014) at 10-11 (available at https://www.epa.gov/sites/production/files/2015-08/documents/hu_honua_decision2011.pdf); *In re Cash Creek Generation, LLC*, Order on Petition IV-2010-4 (June 22, 2012), at 15 (available at https://www.epa.gov/sites/production/files/2015-08/documents/cashcreek_response2010.pdf); *In re Kentucky Syngas, LLC*, Order on Petition No. IV-2010-9 (June 22, 2012) at 29-30 (available at https://www.epa.gov/sites/production/files/2015-08/documents/kentuckysyngas_response2010.pdf).

The draft permit also is deficient due to its failure to require the Enviva Northampton Plant to comply with case-by-case MACT requirements under Clean Air Act section 112(g).⁴³ These case-by-case requirements should have been established and applied to the facility at the time Enviva initially obtained its construction permit in 2012. Though no discussion of the applicability of case-by-case MACT appears in the permit review report for the initial construction permit, it appears that North Carolina DEQ believed the facility was an area source, i.e. minor source, until the changes authorized in 2015.⁴⁴ By our calculations shown below, however, the facility was indeed a major source for MACT as originally constructed. Thus, North Carolina DEQ should have required the Northampton Plant to comply with case-by-case MACT requirements pursuant to Clean Air Act section 112(g). The absence of case-by case MACT requirements renders this draft permit legally deficient.

1. North Carolina DEQ Underestimated Formaldehyde and Methanol Emissions.

North Carolina DEQ's method of calculating HAP emissions at Enviva Northampton fails to properly estimate certain HAP emissions, including emissions from the facility's initial operation. The major problem with North Carolina DEQ's estimates is that they do not accurately account for how hardwood emits methanol and formaldehyde. When these HAPs are properly calculated, the facility's emissions exceed the major source MACT threshold.

To account for the particular ratio of hardwoods and softwoods when applying the AP-42 emission factors, North Carolina DEQ apparently relied on a method suggested by Enviva. Enviva developed a weighted emission factor by scaling HAP emissions based on VOC emissions, as such: "To account for hardwood HAP & TAP [toxic air pollutants] emissions, factors were conservatively calculated by taking the AP-42 HAP factors for 100% softwood (green) and multiplying by the ratio of the total listed VOC emission factors for hardwood and softwood (0.24 / 4.7)."⁴⁵ In other words, Enviva assumes that all HAP emissions will decrease at the same rate VOCs decrease as the percentage of softwood decreases. This assumption is not supported by available source-testing or scientific data on HAP emissions.

Rather than base all the HAP emission factors for a given hardwood content on the sliding VOC scale, a more accurate method would be to use the ratio between a given HAP in in the 100% softwood AP-42 source category and the emission factor for the same HAP in the 40 to 60% source category. This method does not assume that all HAPs are reduced at the same rate, but instead accounts for the unique emission rates of each HAP. For formaldehyde, for instance, the emission factor at 100% softwood is .14 lb/ODT, and at 50% softwood (e.g. the middle point of the 40 to 60% AP-42 category), the emission factor is .096 lb/ODT.⁴⁶ This amounts to a reduction in formaldehyde emissions of 31.43%, whereas total VOCs between the same two

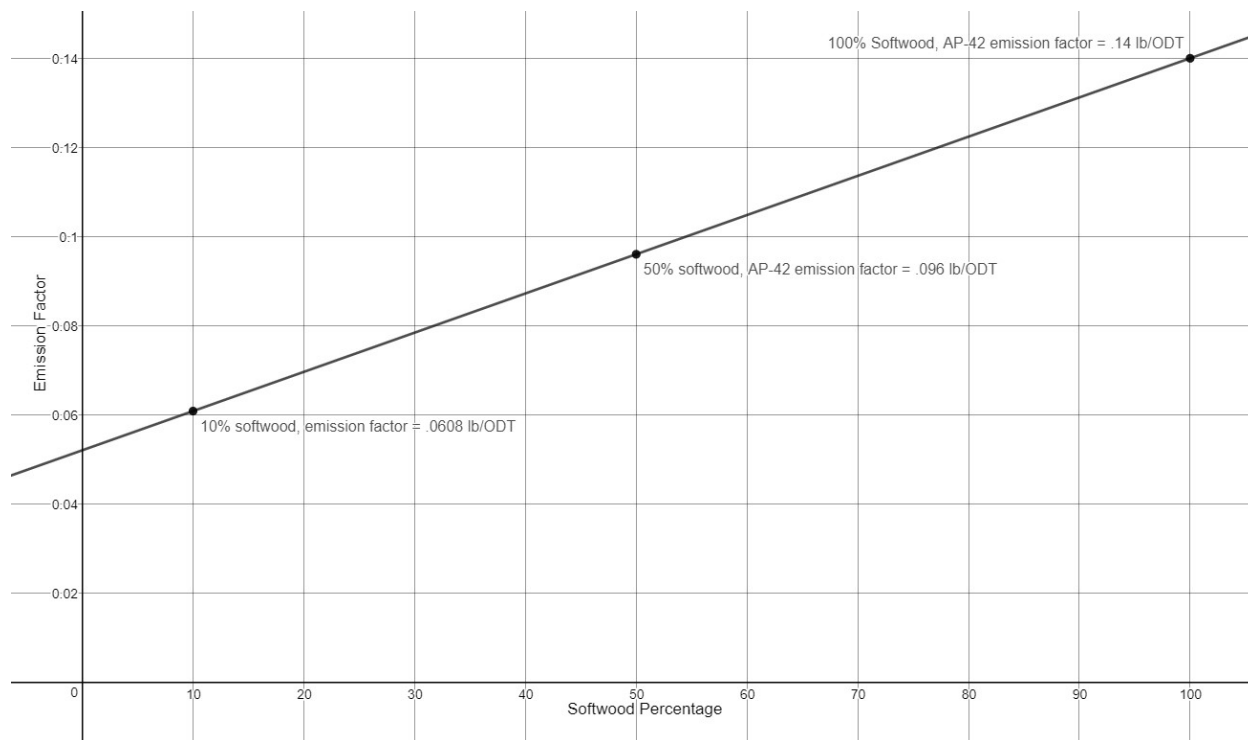
⁴³ Because the EPA has not established MACT standards for the wood pellet industry, North Carolina must apply emission limitations for HAPs on a case-by-case basis which are "equivalent to the limitation that would apply to such source if an emission standard had been promulgated" by the EPA. Clean Air Act § 112(j) (42 U.S.C. 7412(j)(5)).

⁴⁴ See Permit Review for Enviva Northampton Permit 10203R00 part III.B at 4 (referring to the facility as an "area source.").

⁴⁵ Enviva Hamlet PSD Air Construction and Operating Permit Application, January 2014, at 2-4, § 2.3 (Attachment M).

⁴⁶ AP-42 Table 10.6.2-3 SCC 3-07-006-25; Table 10.6.2-3 SCC 3-07-006-26.

source categories are reduced from 4.7 lb/ODT to 1.6 lb/ODT, for a reduction of 65.96%. This shows that formaldehyde emissions do not decrease at the same rate as total VOCs, and instead decrease much more slowly. Furthermore, using this method to develop an emission factor for formaldehyde at 10% softwood produces a factor of .06 lb/ODT, as shown in the graph below:⁴⁷



Graph 1. Projected emission factor at 10% softwood, based on AP-42 emission factors for 100% softwood and 50% softwood.

This emission factor of .06 lb/ODT for 10% softwood, applied to Enviva Northampton’s initial dryer operation rate of 61.5 tph, results in 16.16 tpy of formaldehyde emissions from the dryer alone. This level of formaldehyde emissions is well above the major source threshold of 10 tpy for any single HAP, meaning the facility was a major source as originally permitted and operated.

Although North Carolina DEQ has not required testing for HAPs on Enviva Northampton’s dryer, other facilities which process hardwood and have tested for HAPs from their dryer found major methanol emissions. The Appling County wood pellet facility in Georgia processes around 80% hardwood, a rate similar to Enviva Northampton’s original construction, and operates at a much lower production rate than Enviva Northampton, with a dryer capacity of 18 tph compared to Enviva Northampton’s original rate of 61.5 tph.⁴⁸ Despite the substantially lower capacity, stack testing showed Appling County was a major source for methanol, emitting 11.3 tpy.⁴⁹ This works out to an emission factor of .14 lb/odt, which applied to Enviva Northampton as originally constructed and operated results in 43 tpy of methanol emissions.

⁴⁷ The AP-42 softwood ratios and emission factors are essentially coordinate pairs, and therefore the rate of emissions from a percentage of softwood can be graphed by $y = mx + b$, where the slope ‘m’ is given by: $(.096 \text{ lb/ODT} - .14 \text{ lb/ODT}) / (50\% - 100\%) = 00088$, and ‘b’ is .052.

⁴⁸ Georgia EPD Title V Application Review for Appling County Pellets, December 19, 2015 at 9. (Attachment N).

⁴⁹ *Id.* (Attachment N).

Although comparisons between facilities are never perfect, the fact that a facility with such a similar hardwood ratio to Enviva Northampton has such high emission rates shows how implausible it is that Enviva Northampton, a much larger facility, was truly a minor source of HAPs when constructed.

2. Hardwood Drying Likely Emits Higher Amounts of Certain HAPs Than Softwood Drying.

As discussed above, North Carolina DEQ assumes that methanol and other HAPs decrease when processing hardwood, yet considerable evidence exists that this may be incorrect for certain HAPs, especially methanol. Studies of lumber and engineered wood dryers show that during the wood drying process, hardwoods emit significantly more methanol than softwoods. 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.⁵⁰ Notably, either rate puts Enviva Northampton's original methanol emissions well above the major source threshold.

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.⁵¹ The five softwoods averaged .154 pounds of methanol per metric board foot dried (lb/MBF), with the highest rate being .188 lb/MBF. The hardwood species, on the other hand, emitted .416 lb/MBF. Granted, there are significant differences between lumber kiln drying operations and wood pellet dryers, however these results show that in certain instances drying hardwoods can release much greater levels of methanol than softwoods.

Finally, although the AP-42 emission factors do not show a rise in methanol emissions with hardwood, AP-42's methanol emission factor for hardwood is based on tests of just three dryers, all operating at 55% hardwood.⁵² Notably, this emission factors received a 'D' reliability rating, meaning it is one of the least trustworthy emission factors in AP-42.⁵³ Given the extremely low number of data points and the poor reliability rating, these emission factors cannot be considered conclusive.

In sum, North Carolina DEQ has failed to adequately explain how they reached the conclusion that Enviva Northampton was originally a minor source for methanol. By all appearances, North Carolina DEQ based their calculations on dubious emission factors, and then applied an even more dubious method to account for the hardwood ratio. Substantial evidence exists that the true

⁵⁰ Milota, Michael, "Emissions from Wood Drying: the Science and the Issues," Forest Products Journal, 2000, Issue 50(6) (Attachment E).

⁵¹ Milota, Mike and Mosher, Paul, "Emissions of Hazardous Air Pollutants from Lumber Drying," Forest Products Journal, July 2008 Issue 7/8, at 50-55 (Attachment F).

⁵² Of the wood-fired rotary dryers tested to develop the methanol AP-42 emission factors, there are only five sources processing any significant amount of hardwood (all of which processed 55% hardwood and 45% softwood pine). Of these five, two are noted to be pre-dryers and have substantially lower emissions than the other dryers, and therefore should not be used to estimate emissions from a full-scale rotary dryer. AP-42's emission factor, however, does not exclude the pre-dryer tests from the average for the emission factor, which means the final emission factor is biased low by these pre-dryer tests. See AP-42 § 10.6.2 Data Sets, Rotary Dryer category, Excel spreadsheet available at <https://www3.epa.gov/ttn/chief/ap42/ch10/index.html>. See also AP-42 § 10.6.2, Table 10.6.2-3 SCC 3-07-006-26.

⁵³ *Id.*

rates were well above the major source threshold as originally permitted and constructed, meaning North Carolina DEQ should have then, and must now, apply case-by-case MACT requirements to the dryer and any other substantial sources of HAPs.

III. The Draft Permit's Monitoring Requirement Fails to Assure Compliance with Limits on Visible Emissions.

The draft permit is also deficient because it fails to require monitoring sufficient to assure compliance with the applicable 20% opacity limit set forth in 15A NCAC 02D .0521. In short, the monitoring requirement under Permit Condition 2.1.A.1.3.d allows an untrained individual to pick any time during the first 30 days of the permit's effective period to subjectively determine a "normal" opacity level from the sources.⁵⁴ The draft permit provides no further requirements for how normal opacity is determined. This then sets the bar for opacity monitoring for the subsequent five years of the permit's life. Once a month thereafter, the permittee makes another subjective observation concerning whether the opacity is "above normal." Notably, the draft permit does not require the original observer to record his or her qualitative description of the normal level of opacity, and provides no mechanism for the original observer to communicate to any future observer what normal opacity looks like. Likewise, the recordkeeping requirement fails to require the monthly observers to record any description of their observations, the methods they used to make the observation, or the time of day and conditions at the time the observation was made. This method completely fails to ensure compliance with the 20% opacity limit, and North Carolina DEQ must require monitoring that objectively and adequately determines the level of visible emissions.

North Carolina's SIP rules do not contain monitoring requirements for opacity. Under 40 CFR 70.6(3)(i)(B), where an underlying applicable requirement fails to specify periodic monitoring, the permitting authority add to the Title V permit "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit." The draft permit's monitoring requirement falls far below this standard, as the method of determining normal opacity cannot yield reliable data, nor can this method guarantee compliance with the permit's opacity limit.

The most fundamental reason the monitoring requirement is insufficient is that the permittee could easily comply with the terms of the monitoring condition without recognizing or reporting exceedances of the 20% opacity limit. For instance, if the facility is operating at or near 20% opacity when the initial observer defines the normal level of opacity, even the same observer could easily find that 25% opacity is the same as the "normal" they observed previously, perhaps several years earlier. Worse, with no requirement that the initial observer record any qualitative description of the normal level of opacity, future observers likely will have no understanding of what normal opacity looks like.

Moreover, an entirely subjective standard, such as "normal opacity levels," will not produce any reliable data, as required by 40 CFR 70.6, *supra*. Under the permit conditions, the permittee is free to define normal opacity in any manner they like. The monitoring requirement contains no instructions on the basic methods of observing opacity, such as ambient lighting, background, contrast, or wind, nor does the permit require that the observer have any basic training in these

⁵⁴ Draft permit at 7.

matters. Without an understanding of these core principles, opacity observations are valueless, and cannot meet the standard of reliable data.⁵⁵

The monitoring requirement is further deficient because a once-per-month observation is insufficient to show compliance with a permit condition based on six-minute averaging periods. The permit condition limits opacity to not more than 20% over a six-minute averaging period, except for once within any hour, and not more than four times within a 24-hour period.⁵⁶ This condition could be violated frequently and for long periods of time before a once-per-month observation happens to occur at a time and in a manner to catch the visible emissions.

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 Northampton, and are the best method to accurately monitor opacity.⁵⁷ At a bare minimum, however, North Carolina DEQ must require that the facility accurately and objectively determines whether visible emissions violate the 20% opacity limit. This means eliminating the subjective approach of defining the facility's normal emissions, and instead requiring that observations are made by someone trained to make opacity observations and are conducted in a manner to properly determine actual opacity levels. Further, North Carolina DEQ must require more frequent observations to ensure compliance with the limit at all times. Finally, the permit must require that the observer make meaningful, objective records of their observations in a way that ensures North Carolina DEQ and the public can enforce the opacity limit if violations occur.

IV. The Draft Permit's Particulate Matter Monitoring is Insufficient to Assure Compliance with the Applicable PM and Opacity Limits.

Under Section 2.1.A.1.b., Enviva is required to test the wood-fired dryer to determine compliance with the PM emission limitation in Section 2.1.a.1.a. However, the draft permit fails to establish the date by which this testing must be completed. To be enforceable and assure compliance with the PM limit, NC DEQ must amend the draft permit to include a deadline by which the testing must be completed.

Under Section 2.1.A.1.f., the facility "shall operate the precipitator above the minimum parameters established during the performance test," including minimum secondary voltage and minimum current. These parameters are set "to meet the limits in Section 2.1.A.1.a [the PM limit] and 2.1.A.3.a [the opacity limit]." Section 2.1.A.1.g. goes on to require the facility to "monitor and record the secondary voltage and current through the precipitator hourly and calculate 24-hour block daily average." This parametric monitoring is insufficient to assure the facility's compliance with applicable requirements for several reasons.

First, the draft permit fails to clearly establish what constitutes a violation of the applicable requirements. Condition f. suggests that the facility must operate in compliance with the parameters at all times, but does not indicate what averaging period applies to these parameters.

⁵⁵ EPA Visible Emissions Field Manual, EPA 340/1-92-004 (December 1993). Available at: <https://www3.epa.gov/ttnemc01/methods/VEFieldManual.pdf>

⁵⁶ Permit Condition 2.1.A.1.3.d.

⁵⁷ For instance, Georgia Biomass has installed COMS, see Georgia Air Permit No. 2499-299-0053-V-02-0 for Georgia Biomass (December 19, 2013) (Attachment O), as well as Hazlehurst Wood Pellets, see Georgia EPD Title V Application Review for Hazlehurst Wood Pellets (January 26, 2015) (Attachment P).

Condition g. then instructs that the facility must monitor the 24-hour daily average. However, g. simply states that failure to monitor, inspect or maintain the precipitator constitutes a violation. To make the permit requirements enforceable, the permit must clearly indicate what the averaging period will be for determining compliance with the parameters and clearly provide that any deviation from the parametric limits as measured using the specified averaging period is a violation of the underlying applicable requirements.

Second, DEQ must provide a reasoned explanation for how using whatever average it selects (24-hour average or otherwise) is sufficient to assure compliance with the hourly PM limit in Section 2.1.a.1.a. and the 6-minute average opacity limit in Section and 2.1.A.3.a. Under 40 C.F.R. § 70.6(a)(3)(B), a permit must include “periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source’s compliance with the permit ... Such monitoring requirements shall assure use of terms, units, averaging periods, and other statistical conventions consistent with the applicable requirement.” (emphasis added). Furthermore, to comply with the statement of basis requirement in 40 C.F.R. § 70.7(a)(5), a permitting authority must ensure that the rationale for selected monitoring is “clear and documented in the permit record.”⁵⁸ Accordingly, North Carolina DEQ must explain why the 24-hour average voltage and current readings are adequate to assure compliance with the hourly PM limit and 6-minute opacity limit. Insofar as North Carolina does not have a reasoned basis for concluding that the monitoring in the draft permit is sufficient, North Carolina DEQ must add monitoring to the permit that is sufficient to assure compliance.

Third, the draft permit fails to specify interim parametric monitoring for the wet electrostatic precipitator (wet ESP) sufficient to assure the facility’s compliance with the PM and opacity limits up until the time that the facility performs a source test to confirm new parameters. Rather, the draft permit states that the facility must “collect data to establish minimum secondary voltage and minimum current to meet the limits,” and that the permittee “shall operate the precipitator above the minimum parameters ... [w]ithin 30 days of test results submittal.” Section 2.1.A.1.f. In other words, up until testing is performed and new parameters are verified, there will be no parametric monitoring of the wet ESP to assure compliance with the applicable limit. This does not comport with Title V, which requires that the permit contain monitoring sufficient to assure the facility’s compliance at all times. Especially where, as here, a facility has already been operating for four years, there can be no justification for issuing a Title V permit that omits the parameters needed to assure the facility’s compliance with applicable requirements.

In the “application review” for this draft permit, North Carolina DEQ explains that the facility is proposing to operate the precipitator with a minimum secondary voltage and current that is different from the levels at which the source has performed stack testing to demonstrate compliance with applicable requirements.⁵⁹ North Carolina DEQ specifically explained that “there was no data to demonstrate compliance at the voltage and the current they are proposing.” Nonetheless, nothing in the draft permit appears to prohibit the facility from operating at that voltage and current prior to performing source testing, and the permit lacks any other monitoring to assure the facility’s compliance with the applicable PM limit while it is doing so. Thus, the draft permit indisputably does not assure the facility’s compliance with the applicable PM limit up until such date as the facility performs testing and establishes reliable parameters for ensuring

⁵⁸ *In re United States Steel Corporation—Granite City Works*, Order on Petition V-2009-03 (Jan. 11, 2011), at 16.

⁵⁹ North Carolina DEQ, Air Permit Review for Enviva Northampton Draft Title V Permit 10203T06, at 6.

that the wet ESP is controlling PM emissions to the level required by the applicable requirement (i.e. primary voltage, secondary voltage, current, and number of fields being operated). North Carolina must remedy this deficiency and ensure that the permit includes monitoring sufficient to assure the facility's compliance with the applicable PM limit at all times, beginning from the date that the permit is issued.

Fourth, the draft permit fails to specify how Enviva is to monitor the specified parameters. North Carolina DEQ must revise the permit to require Enviva to install, calibrate, maintain, and operate a system to continuously monitor the required parameters. Such system shall be required to meet specific performance specifications, including a required accuracy of at least +/- 2%.

Finally, North Carolina must clarify the language in the draft permit allowing Enviva up to 3 days of "absent observations" per semi-annual period for the wet ESP monitoring. First, we see no basis in the underlying applicable requirement for North Carolina DEQ to allow Enviva up to 6 days a year in which it can fail to perform the required monitoring without repercussion. This exemption certainly is not sufficient to assure the facility's compliance with an hourly PM limit. Second, even if North Carolina DEQ can provide a reasoned explanation for why the 6-days-per-year exemption is permissible, North Carolina DEQ needs to clarify that this exemption is meant only to authorize up to three 24-hour periods per six-month reporting cycle in which Enviva cannot calculate a 24-hour average due to missing data—not to excuse Enviva from failure to monitor the required parameters for a total of 36 hours of monitoring time. At a minimum, (assuming that North Carolina DEQ is able to provide a reasoned justification as discussed above for why a 24-hour average is sufficient to assure the facility's compliance with applicable requirements), North Carolina DEQ must clarify in the permit that the 3-day grace period means that the facility may have 3 days for which it isn't able to calculate a 24-hour average, not 36 hours total of missed monitoring.

V. North Carolina DEQ Failed to Provide Timely Access to the Title V Permit Application and Other Materials, Violating Title V's Requirement That These Materials Be Made Available to the Public.

North Carolina DEQ has not made Enviva Northampton's Title V permit application, prior permit applications, stack testing, and other supporting documents available in a manner adequate to satisfy the public participation requirements of the Title V permitting program. North Carolina DEQ has expressed that their policy is to refuse to make copies or scans of documents available to the public, and has stated that the only method available to the public to obtain copies is to bring a personal scanner to the Raleigh Division of Air Quality office and scan the relevant documents.⁶⁰ Although North Carolina DEQ did eventually agree to mail copies of the facility's applications, we did not receive the applications until the afternoon on the day before the end of the comment period. The delay is even more egregious considering that we filed a public records request and offered to pay reasonable fees for the applications and supporting materials in May of 2017, nearly five months before the public comment period.⁶¹ Our lack of access to these important documents meant that we did not have a full and fair 30-day opportunity to review and comment on the draft permit. Most of our concerns about this

⁶⁰ Email from Jill Lucas, Division of Air Quality Public Information Contact, to Patrick Anderson of Powell Environmental Law, Sept. 28, 2017 (Attachment Q).

⁶¹ Public Records Request dated May 25, 2017 (Attachment II).

draft permit turn on North Carolina’s treatment of the Enviva Northampton plant as a minor, or area, source that is not subject the rigorous air pollution control standards applicable to major sources. These concerns turn on emission calculations, which are contained in facility permit applications. Our lack of access to these applications impeded our ability to evaluate North Carolina DEQ’s permitting decisions and participate meaningfully in this permit proceeding.

Clean Air Act Title V and the Part 70 regulations set out firm rules for the minimum procedures needed to satisfy the public participation requirements. Title V specifically requires that “[a] copy of each permit application . . . shall be available to the public.”⁶² Further, the Part 70 regulations governing public participation state that public notices shall include “the name, address, and telephone number of a person [] from whom interested persons may obtain additional information, including copies of the permit draft, the application, all relevant supporting materials . . . and all other materials available to the permitting authority [] that are relevant to the permit decision.”⁶³ These provisions are meaningless without the implied requirement that the permitting authority actually make these materials available in a reasonable manner.

On a state level, North Carolina’s own public records statute, N.C. Gen. Stat. § 132-6, plainly requires copies of documents to be made available: “[e]very custodian of public records shall permit any record in the custodian's custody to be inspected and examined at reasonable times and under reasonable supervision by any person, and shall, as promptly as possible, furnish copies thereof upon payment of any fees as may be prescribed by law.”⁶⁴ (emphasis added). North Carolina DEQ, on the other hand, has stated that “DEQ’s Office of General Counsel says that our agency has interpreted G.S. 132-6 to mean we are obligated to make public records available for inspection and examination at reasonable times, but that we are not obligated to make the copies for the requestor.”⁶⁵ The General Counsel has not been responsive to requests to explain this interpretation.

The Enviva Northampton facility is located 90 miles from the Raleigh DEQ office, and many citizens directly impacted by Enviva Northampton’s air emissions live well over 100 miles from the facility. The region is rural, and home to many low-income citizens who may have trouble travelling.⁶⁶ Further, because this facility at least arguably should have gone through PSD and therefore a BACT review for GHG gasses, this facility’s GHG emissions are a relevant issue for citizens across the nation and beyond.

Understanding the draft Title V permit and Enviva Northampton’s emissions involves a considerable amount of time reviewing the air permit applications and other supporting documents. Access to copies of these documents, and not just the ability to review them in the North Carolina DEQ office in Raleigh, is therefore vital for citizens who wish to participate in

⁶² 42 USC § 7661b(e)

⁶³ 40 CFR § 70.7(h)

⁶⁴ N.C. Gen. Stat. § 132-6(a).

⁶⁵ Email from Jill Lucas, Division of Air Quality Public Information Contact, to Patrick Anderson of Powell Environmental Law, Sept. 28, 2017 (Attachment Q).

⁶⁶ Northampton County is classified as a Tier 1 county under North Carolina’s Development Tier Designation system, meaning it has among the lowest levels of median household income and highest unemployment rates in the state. See 2017 Tier Designations at <https://www.nccommerce.com/research-publications/incentive-reports/county-tier-designations>.

the permitting process. Unlike large law firms and private companies, the average citizen and smaller advocacy groups generally do not own a portable scanner or copier. North Carolina DEQ's policy on refusing to make copies therefore denies these citizens their right to understand the permit they are reviewing and the facility which operates in their backyard.

The requirement that citizens travel to Raleigh to either review these complex materials in person, or obtain an expensive piece of technology to make copies cannot be considered making the application "available to the public" for under Title V's requirement. Therefore this public comment period cannot support the issuance of this permit. North Carolina must provide adequate and meaningful opportunity to comment by extending or restarting this comment period.⁶⁷

VI. North Carolina DEQ Should Require Enviva Northampton to Prepare and Implement a Fugitive Dust Control Plan.

Wood pellet plants generate a lot of fugitive dust, i.e., airborne particulate matter. In fact, one of the most common air pollution complaints raised by residents of communities where wood pellet plants are located is the large amount of fugitive dust that escapes into surrounding neighborhoods.⁶⁸ Major sources of fugitive dust at wood pellet plants include wood handling, wood storage piles, conveyor transfer points, yard dust, haul road dust and engine exhaust.⁶⁹ Health problems associated with exposure to particulate matter pollution primarily involve damage to the lungs and respiratory system due to inhalation. Specifically, the inhalation of dust particles can irritate the eyes, nose and throat; cause respiratory distress, including coughing, difficulty in breathing and chest tightness; increase the severity of bronchitis, asthma and emphysema; cause heart attacks and aggravate heart disease; and lead to premature death in individuals with serious lung or heart disease.⁷⁰ When exposed repeatedly over a longer time period, fugitive dust exposure can lead to severe illness such as cancer.⁷¹ In addition to affecting human health, fugitive dust reduces visibility, affects surface water, reduces plant growth, and can be a nuisance.

⁶⁷ 40 CFR § 70.8(c)(3)(iii), stating that failure of the permitting authority to process the permit under the procedures approved to meet § 70.7(h) (public participation procedures) is grounds for EPA to object to a permit issuance.

⁶⁸ For example, in 2014, residents of West Monroe, Louisiana publicized their ongoing concerns regarding large amounts of fugitive dust released from the Bayou Wood Pellet Plant. See Parker, Zach, "Homeowners Seek EPA's Help with Pollution Complaints," *The Ouachita Citizen* (Nov. 5, 2014) (Available at http://www.hannapub.com/ouachitacitizen/news/local_state_headlines/homeowners-seek-epa-s-help-with-pollution-complaints/article_5d11a19e-650b-11e4-8331-001a4bcf6878.html) (Attachment R). See also "Residents are having concerns with saw dust particles in the air coming from Bayou Wood Pellet Plant," (Jan. 21, 2015) (describing community concerns about fugitive dust from a wood pellet plant in West Monroe, Louisiana) (available at <http://www.knoe.com/home/headlines/Residents-are-having-concern-with-dust-particles-in-the-air-coming-from--289388501.html>) (Attachment S).

⁶⁹ British Columbia, Ministry of the Environment, Air Emissions Fact Sheet: Wood Pellet Manufacturing Facilities (July 2011) (Attachment T).

⁷⁰ New Hampshire Department of Environmental Services, Environmental Fact Sheet, Fugitive Dust (2014) (available <https://www.des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-42.pdf>) (Attachment U); see also Stelte, Wolfgang, Danish Technological Institute, *Guideline: Storage and Handling of Wood Pellets* (Dec. 2012), at 6 (Attachment V).

⁷¹ Stelte, Wolfgang, Danish Technological Institute, *Guideline: Storage and Handling of Wood Pellets* (Dec. 2012), at 6 (Attachment V).

Condition MM in Section 3 of Enviva Northampton’s draft permit addresses the requirements of North Carolina Rule 15A NCAC 02D .0540, “Particulates from Fugitive Dust Emission Sources.” Under this draft permit condition, Enviva Northampton must “not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary.” Furthermore, “[i]f substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).” (emphasis added).

Under North Carolina Rule 15A NCAC 02D .0540(e), “If there is sufficient environmental benefit to justify a fugitive dust control plan, the Director shall require that the owner or operator of a facility ... develop and submit a fugitive dust control plan.” The plan shall identify the sources of fugitive dust emissions within the facility, describe how fugitive dust will be controlled from each identified source, contain a schedule by which the plan will be implemented, describe how the plan will be implemented, and describe methods to verify compliance with the plan. 15A NCAC 02D .0540(e). In light of the well-documented fugitive dust problems associated with wood pellet manufacturing plants, North Carolina should revise the draft permit to require Enviva to prepare such a fugitive dust control plan. North Carolina should also include the specific requirements of such plan in the permit as enforceable conditions.

VII. The Draft Permit Does Not Assure Compliance with the Requirement to Design and Maintain a Safe Facility Under the Clean Air Act Section 112(r)(1) General Duty Clause.

The draft Title V operating permit for Enviva Northampton also lacks sufficient detail to assure compliance with Enviva’s general duty under Clean Air Act section 112(r)(1) to design and maintain their facility in a way that prevents the accidental release of any extremely hazardous substance and minimizes the consequences of accidental releases that do occur. This statutory provision, commonly referred to as the “General Duty Clause,” qualifies as an “applicable requirement” that must be addressed in Enviva Northampton’s Title V permit.⁷² The extremely hazardous substance at issue for Enviva Northampton is wood dust, which is flammable and presents an explosion hazard under certain conditions.⁷³ Dust is present along with other elements that could lead to an explosion at every stage of the pellet-making process.⁷⁴ Indeed, the risk of explosions and fires caused by combustible dust at wood pellet plants is well-documented in the wood pellet industry.⁷⁵ Enviva wood pellet plants are no exception, as

⁷² See 40 C.F.R. § 70.2 (defining “[a]pplicable requirement” to include “[a]ny standard or other requirement under section 112 of the Act.”).

⁷³ Fletcher, Katie, “Combustible Dust is an Explosive Issue,” *Biomass Magazine* (Dec. 25, 2014) (available at <http://biomassmagazine.com/articles/11334/combustible-dust-an-explosive-issue>) (Attachment W); see also Stelte, Wolfgang, Danish Technological Institute, *Guideline: Storage and Handling of Wood Pellets* (Dec. 2012), at 9 (Attachment V) (explaining that “Fires and explosions can occur along the whole supply chain of wood pellet production and delivery and can take place in the production plan, transport vessels, transfer facilities and at the consumer site...An accumulation of dust ... due to improper maintenance and cleaning can increase the risk of fires and dust explosions.”).

⁷⁴ Fletcher, Katie, “Combustible Dust is an Explosive Issue,” *Biomass Magazine* (Dec. 25, 2014) (Attachment W).

⁷⁵ *Id.* See also Melin, Staffan, Wood Pellet Association of Canada, *Determination of Explosibility of Dust Layers in Pellet Manufacturing Plants* (Aug. 30, 2012)(“Dust explosions and fires has become a major issue in the pellets

demonstrated by the recent unexplained fires at Enviva’s Cottondale, Florida, and Southampton, Virginia, plants.⁷⁶ In North Carolina specifically, Enviva’s Ahoskie plant experienced several unexplained fires in recent years.⁷⁷ Due to the significant risk posed by combustible dust at the Enviva Northampton Plant, it is critical that the draft Title V permit be amended to state that the General Duty Clause applies to the facility’s handling of explosive dust, and to require the facility to perform specific steps that are sufficient to ensure that workers and others who live, work, recreate, or simply commute in the facility’s vicinity are protected from the dangers posed by combustible dust.⁷⁸ The permit also must include monitoring, recordkeeping, and reporting to assure the facility’s compliance with these requirements.

Wood dust at Enviva Northampton easily qualifies as an “extremely hazardous substance” that is subject to the General Duty Clause. According to Clean Air Act 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.⁷⁹ Although the Clean Air Act does

industry as well as in other woodworking industries with devastating consequences in many cases.) (Attachment X); Biomass Handling, *Biomass Dust Fire and Explosion Control* (Apr. 24, 2013), at 2 (“Historically, wood pellet production was a small industry with more than its share of fires and explosions. However with the emphasis on green energy, wood pellet production has skyrocketed and very large plants are being constructed. There have been several recent major fires and explosions within the wood pellet manufacturing, shipping, receiving, storage and power plant facilities. These new facilities are learning that they have to employ safe handling practices for dry wood materials.”) (Attachment Y); *The Florida Times-Union*, Jacksonville.com, “Overheated Assembly Caused Georgia Biomass Explosion,” (July 13, 2011) (“Wood pellet production should resume today at Georgia Biomass, which was crippled by a dust explosion last month.”) (Attachment Z); Baghouse.com, “Dust Collector Fire and Explosion Highlights Need for Combustible Dust Consideration in System Designs (available at www.docucuc-archive.com/.../Dust-Collector-Fire-and-Explosion-Highlights-Need.pdf) (Attachment AA); Simet, Anna, *Biomass Magazine*, “Dusting Up on Risk & Regulation” (Jan. 26, 2016) (“Dust explosions resulting in injuries, fatalities and facility destruction are not uncommon at . . . biomass facilities that utilize pulverized or ground wood material to make energy or wood pellets.”) (available at <http://biomassmagazine.com/articles/12794/dusting-up-on-risk-regulation>) (Attachment BB); Harrington Group, “Fire Prevention Tips for Wood Pellet Plants” (“The amount of wood, dust, various ignition sources inherent in the wood pellet production process presents a high risk of explosion and fire. However, there are strategies that can be implemented to reduce the risk of fire and explosions and to mitigate the impact should they occur.”) (available at <http://hgi-fire.com/blog/fire-prevention-tips-for-wood-pellet-plants/>) (Attachment CC); NBC 10 News, “Fire Chief: Dust Caused Pellet Company Explosion,” (Aug. 20, 2013)(available at <http://turnto10.com/archive/fire-reported-at-east-providence-wood-pellet-company>) (Attachment DD); Griffin, Jeff, Fauske & Associates, LLC, “Managing Combustible Dust & Safety Concerns in Biomass/Wood Pellet Industry (Nov. 1, 2013) (available at <http://blog.fauske.com/blog/bid/346875/Managing-Combustible-Dust-Safety-Concerns-in-Biomass-Wood-Pellet-Industry>) (Attachment EE).

⁷⁶ Mypanhandle.com, “Enviva’s Cottondale Facility Damaged by Fire” (June 11, 2017) (available at <http://www.mypanhandle.com/news/envivas-cottondale-facility-damaged-by-fire/737627383>) (Attachment FF); Erin Voegele, “Fire at Enviva Facility Not Expected to Result in Major Downtime,” *Biomass Magazine* (Jan. 9, 2014) (available at <http://biomassmagazine.com/articles/9882/fire-at-enviva-facility-not-expected-to-result-in-major-downtime>) (Attachment GG).

⁷⁷ N.C. Department of Environmental Quality, Notice of Violation for Enviva Pellets Ahoskie (June 21, 2016) (discussing grid downtime attributed to, among other things, “fires at the plant that hampered operations” even though the Department “had been informed of only one fire on May 31, 2015”) (Attachment HH).

⁷⁸ See 40 CFR § 70.6(a)(1) (Each permit must include “those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance.”), see also 40 CFR §§ 70.6(a)(3) and (c)(1).

⁷⁹ Senate Committee on Environment and Public Works, Clean Air Act Amendments of 1989, Senate Report No. 228, 101st Congress, 1st Session 211 (1989) (“Senate Report”), at 210-211.

not define “extremely hazardous substances,” the legislative history provides criteria which EPA may use 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.”⁸⁰ 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.”⁸¹ There is ample evidence that wood dust generated by pellet plants is flammable and can be explosive, leading to death, injury, or substantial property damage.⁸²

The only mention of Clean Air Act § 112(r) requirements in the draft Enviva Northampton permit is in draft permit Condition EE in Section 3 (General Conditions). However, this condition is woefully inadequate to assure Enviva Northampton’s compliance with the General Duty Clause. First, this condition does not clearly state that it applies to the Northampton facility, but rather states that “if” the facility “produces, processes, handles, or stores any amount of a listed hazardous substance,” the facility is subject to the General Duty Clause. Second, this draft permit condition incorrectly describes the applicability of the General Duty Clause. Contrary to the language of the draft permit condition, the General Duty does not just apply to any “listed hazardous substance,” but applies more broadly to any “extremely hazardous substance.” As explained above, Clean Air Act legislative history confirms that this includes not only “listed” substances but also other substances that qualify as “extremely hazardous” based on their characteristics. As explained above, wood dust easily qualifies as an “extremely hazardous substance” and thus is covered by the General Duty Clause. To ensure that Enviva understands its General Duty Clause obligations, it is essential that North Carolina remove the incorrect language in Condition EE, and include a permit condition expressly stating Enviva’s obligation to manage combustible wood dust in accordance with General Duty Clause requirements. (North Carolina DEQ should continue to include more general language in the permit as well as the specific language addressing combustible wood dust).

Aside from failing to clearly state Enviva’s obligation to handle wood dust in accordance with the General Duty Clause, the draft permit is also deficient in that it fails to provide adequate specificity regarding what the facility must do to comply with the General Duty Clause and fails to require the facility to perform monitoring to assure its compliance with this requirement. As the D.C. Circuit confirmed in *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008), a permitting authority is obligated to add monitoring, recordkeeping, and reporting requirements to a source’s Title V permit where needed to assure the source’s compliance with an applicable requirement. Clarifying a source’s obligations under the Clean Air Act’s General Duty Clause and developing monitoring, recordkeeping, and reporting sufficient to assure a source’s compliance with those obligations falls squarely within what Congress intended by enacting the Title V operating permit program in 1990. The fact that a source’s specific obligations under this requirement may be unique from those of other sources strongly supports the argument that a Title V permit must

⁸⁰ Senate Report at 211.

⁸¹ *Id.*

⁸² See *supra* notes 73-77.

clarify what the source's obligations are and incorporate any conditions needed to assure the source's compliance with those obligations.⁸³

To assure Enviva Northampton's compliance with the General Duty Clause, the permit must be revised to, at a minimum:

- (1) Identify Clean Air Act section 112(r)(1) 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.
- (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.

It is important to recognize that regardless of what detail is ultimately included in the final permit, the facility must comply with the General Duty Clause and may be subject to an enforcement action for non-compliance.⁸⁴ In recent years, the EPA has been enforcing the General Duty Clause against non-compliant facilities and has levied substantial penalties against significant violators. Unfortunately, these enforcement actions typically take place after an accident occurs. When enforcement actions are brought, some facility operators contend that they were unaware of the General Duty Clause or of its applicability to their facility. By adding sufficiently detailed requirements to the Enviva Northampton permit to put facility operators on notice of the facility's General Duty Clause obligations, North Carolina DEQ would decrease the likelihood of a violation, thereby decreasing the likelihood of a serious accident causing death, serious injury, or significant property damage. Thus, regardless of whether North Carolina DEQ agrees that the Clean Air Act *requires* that the permit include additional detail regarding the facility's General Duty Clause obligations (which we believe it does), we urge the North Carolina DEQ to add these details to the Enviva Northampton permit.⁸⁵

Conclusion

Due to the deficiencies described above, the draft Title V permit for the Enviva Northampton plant does not ensure that the facility will control its air pollution as required by the Clean Air Act. We urge North Carolina DEQ to revise the Title V permit to address our concerns. North Carolina DEQ must provide a clear explanation in the statement of basis for the Title V permit that explains how the proposed permit that it sends to U.S. EPA assures the facility's compliance with applicable requirements.

⁸³ Additional information on implementation of General Duty Clause requirements is provided in the EPA's guidance document, "Guidance for Implementation of the General Duty Clause Clean Air Act Section 112(r)(1)," available at <https://www.epa.gov/sites/production/files/documents/gendutyclause-rpt.pdf>.

⁸⁴ See *In re Shintech Inc. and Its Affiliates' Polyvinyl Chloride Production Facility*, Order on Petition (1997) (available at https://www.epa.gov/sites/production/files/2015-08/documents/shintech_decision1997.pdf) at 12.

⁸⁵ See 61 Fed. Reg. 31668, 31689/1-2 (explaining that "air permitting authorities still have the flexibility to establish additional terms for the permit if it so chooses.")

If North Carolina DEQ has already forwarded a proposed Title V permit for Enviva Northampton to U.S. EPA for its 45-day review period, North Carolina DEQ needs to withdraw that proposed permit from U.S. EPA review and follow sequential review procedures, i.e., North Carolina DEQ must consider these comments and any others received during the public comment period prior to submitting a proposed permit to U.S. EPA. In addition, because this draft permit lacks conditions requiring the source to comply with PSD review requirements (including enforceable BACT emission limits for each unit) as well as case-by-case MACT requirements, it will be necessary for North Carolina DEQ to release a new draft permit for public comment prior to forwarding a proposed permit to U.S. EPA. Furthermore, as discussed above, a renewed comment period is needed due to the unavailability of key documents, including relevant permit applications, during the public comment period. We request that North Carolina DEQ notify us when it finalizes its response to our comments and when any additional opportunity to participate in the permitting process arises.

Respectfully submitted,

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On behalf of Clear Air Carolina, Medical Advocates for Healthy Air, Dogwood Alliance, Toxic Free North Carolina, Environmental Integrity Project, Partnership for Policy Integrity, Natural Resources Defense Council, Center for Biological Diversity, Our Children's Earth, and James Woodley.

Attachments: Comment Attachments A through II

cc: (without attachments)

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