

**BEFORE THE ADMINISTRATOR  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

IN THE MATTER OF: )  
)  
ADEQ Draft Part 70 Air Operating Permit )  
No. 2389-AOP-R0 )  
) Permit No. 2389-AOP-R0  
For Highland Pellets South )  
)  
Prepared by the Arkansas Department of )  
Environmental Quality )

**PETITION TO OBJECT TO THE TITLE V OPERATING PERMIT FOR  
THE HIGHLAND PELLETS SOUTH PLANT**

Pursuant to section 505(b)(2) of the Clean Air Act, 42 U.S.C. § 7661d(b)(2), and 40 C.F.R. § 70.8(d), Dogwood Alliance, Partnership for Policy Integrity, Natural Resources Defense Council, Our Children’s Earth, and Environmental Integrity Project (“Petitioners”) hereby respectfully petition the Administrator of the U.S. Environmental Protection Agency (“EPA”) to object to the above-referenced draft Title V permit (“the permit”) prepared by the Arkansas Department of Environmental Quality (“ADEQ”) for the proposed Highland Pellets South (“HPS” or the “Stephens Mill”) wood pellet manufacturing facility to be located at 4657 Highway 79 South, Stephens, Arkansas. The draft permit serves as both the initial state construction permit as well as the initial Title V federal operating permit.

ADEQ forwarded this permit to EPA for its 45-day review period on December 13, 2018, prior to the close of the public comment period, which ended January 30, 2019.<sup>1</sup> On January 30, 2019, Petitioners submitted timely comments on the draft permit to ADEQ.<sup>2</sup> Following the close of the public comment period, Environmental Integrity Project (“EIP”) contacted ADEQ and requested that ADEQ withdraw the permit from EPA review while ADEQ considered whether Petitioners’ comments warranted revisions to the permit.<sup>3</sup> To the best of our knowledge, ADEQ has refused to do so.<sup>4</sup> According to the EPA Region VI webpage, EPA’s 45-day review period concluded on January 28, 2019, and the 60-day period to petition the EPA to object concludes on Saturday, March 30, 2019.<sup>5</sup> Because the 60-day period falls on a Saturday, the deadline to petition is Monday, April 1, 2019. As a result, in order not to lose its statutory right to petition EPA for an

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<sup>1</sup> Email from Amanda Leamons, ADEQ, to Patrick Anderson, Environmental Integrity Project, (Jan. 10, 2019) (Attachment A).

<sup>2</sup> See Environmental Integrity Project, et al., Written Comments on Draft Permit Submitted to ADEQ January 30, 2019; (referred to herein as “Petitioners’ Comments”) (Attachment B). Petitioners’ Comments are incorporated herein.

<sup>3</sup> See Emails between Patrick Anderson, EIP, and Amanda Leamons, permit engineer, ADEQ (Feb. 26 to Mar. 19, 2019). (Attachment C).

<sup>4</sup> *Id.*

<sup>5</sup> EPA, Operating Permit Timeline for Arkansas, Accessed March 27, 2019, available at: <https://www.epa.gov/caa-permitting/operating-permit-timeline-arkansas>. (Screenshot at Attachment D).

objection, Petitioners have no choice but to file this petition before receiving ADEQ's response to Petitioners' comments on the draft permit and before ADEQ decides whether to revise the permit in light of those comments.

As detailed below, ADEQ's submittal of a proposed permit to EPA prior to receiving and considering public comments on the draft permit violates the Clean Air Act. For that reason alone, EPA must grant this petition and object to the proposed permit. Furthermore, and as shown below, the proposed permit suffers from significant substantive flaws. Most significantly, the wood pellet production limit designed to restrict the facility's volatile organic compound ("VOC") emissions below the major source threshold for the Clean Air Act's Prevention of Significant Deterioration ("PSD") requirements is vastly too high. In particular, as documented below and in Petitioners' comments to ADEQ, the facility's VOC emissions would greatly exceed the PSD applicability threshold at the permitted production limit of 826,733 short tons of wood pellets per year.<sup>6</sup> Petitioners calculate that to reduce the facility's potential VOC emissions to below the 250 tpy PSD applicability threshold, HPS would need to agree to a production limit of no more than 241,000 short tons per year. Likewise, the permit limits designed to restrict nitrogen oxides (NOx) below the PSD applicability threshold are insufficient, as are the permit limits designed to restrict hazardous air pollutants (HAP) below the major source threshold for Clean Air Act section 112 maximum achievable control technology (MACT) requirements. Thus, the proposed permit fails to assure the facility's compliance with applicable PSD and MACT requirements and EPA must object.

## BACKGROUND

### I. PETITIONERS

**Environmental Integrity Project (EIP):** EIP is a non-profit, non-partisan watchdog organization that advocates for effective enforcement of environmental laws. EIP has three goals: (1) to illustrate through objective facts and figures how the failure to enforce and implement environmental laws increases pollution and harms public health; (2) to hold federal and state agencies, as well as individual corporations accountable for failing to enforce or comply with environmental laws; and (3) to help communities obtain protections guaranteed by environmental laws.

**Natural Resources Defense Council (NRDC):** NRDC is a national, non-profit, environmental organization that works to safeguard the earth—its people, its plants and animals, and the natural systems on which all life depends. We combine the power of more than three million members and online activists with the expertise of some 500 scientists, lawyers, and policy advocates across the globe to ensure the rights of all people to the air, the water, and the wild.

**Partnership for Policy Integrity (PFPI):** PFPI is a non-profit corporation that provides scientific and legal support so that citizen groups, environmental organizations, and

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<sup>6</sup> Draft Permit Specific Condition VI.7 specifically restricts production to 750,000 metric tons per year, however for consistency with units used to calculate emissions by both ADEQ and HPS, we use short tons throughout these comments.

policymakers can better understand energy development impacts on air quality, ecosystems, and the climate.

**Our Children’s Earth (OCE):** OCE advocates on behalf of children, who are most vulnerable to pollution, to enable them to breathe clean air and use clean water. OCE educates the public about health problems caused by pollution in their neighborhoods and empowers affected communities to take action to reduce pollution. Throughout its history, OCE has successfully challenged and exposed governmental agencies that fail to meet their responsibility to protect and serve the public. This pro-transparency work reflects our commitment to educate communities about environmental issues, to investigate noncompliant and negligent polluters, and to enforce environmental laws and regulations.

**The Dogwood Alliance:** The Dogwood Alliance mobilizes diverse voices to protect Southern forests and communities from destructive industrial logging. Dogwood Alliance opposes industrial wood pellet facilities for their negative impacts on our forests, environment, and communities. The production of wood pellets creates fine particulates and other air pollutants that have been linked to respiratory illness, heart disease, and cancer.

## II. PROCEDURAL BACKGROUND

This petition addresses ADEQ’s draft Title V Operating Permit No. 2389-AOP-R0 authorizing construction and operation of the Highland Pellets South wood pellet manufacturing plant. ADEQ released the draft permit on its website on approximately December 13, 2018.<sup>7</sup> Also on December 13, 2018, ADEQ forwarded the draft permit to EPA, and EPA’s 45-day review period ended on January 28, 2019.<sup>8</sup> The requisite 30-day public comment period, however, did not officially begin until HPS published public notices in two local newspapers, of which the second publication occurred on December 31, 2018, meaning the public comment period closed on January 30, 2019, two days after the end of EPA’s review period. On January 30, 2019, the Petitioners submitted public comments on the draft permit, which included a request for ADEQ to withdraw the draft permit from EPA review while ADEQ considered the comments and the need for permit revisions. On February 26, 2019, EIP again asked that ADEQ withdraw the draft permit from EPA review.<sup>9</sup> To our knowledge, ADEQ has not withdrawn the draft permit. Petitioners therefore submit this petition prior to receiving ADEQ’s response to comments.

## III. GENERAL TITLE V PERMIT REQUIREMENTS

To protect public health and the environment, the Clean Air Act prohibits stationary sources of air pollution operating without or in violation of a valid permit, which must be designed to include and assure implementation and compliance with health-based emission standards and all other applicable requirements. 42 U.S.C. §§ 7661a, 7661c. To that end, Title V permits must include such conditions as necessary to assure compliance with all applicable requirements.

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<sup>7</sup> ADEQ Webpage “Air Permit Application Process Data Files Specific Facility Details,” *available at*: [https://www.adeg.state.ar.us/air/permits/p\\_facil\\_details.aspx?AFINDash=52-00710&AFIN=5200710](https://www.adeg.state.ar.us/air/permits/p_facil_details.aspx?AFINDash=52-00710&AFIN=5200710)

<sup>8</sup> See Email exchange with Amanda Leamons, *supra* note 3; see also EPA’s Title V permit timeline webpage, *supra*, note 5.

<sup>9</sup> Email exchange with Amanda Leamons, *supra* note 3.

40 C.F.R. § 70.6(a)(1); 42 U.S.C. § 7661c(a), (c). As defined, “applicable requirements” include all standards, emissions limits, and requirements of the Clean Air Act. 40 C.F.R. § 70.2. “The permit is crucial to implementation of the Act: it contains, in a single, comprehensive set of documents, all CAA requirements relevant to the particular polluting source.” *Virginia v. Browner*, 80 F.3d 869, 873 (4th Cir. 1996) (purpose of Title V permit is to provide “a source-specific bible for Clean Air Act compliance”); *Sierra Club v. EPA*, 536 F.3d 673, 681, 674-75 (D.C. Cir. 2008) (“But Title V did more than require the compilation in a single document of existing applicable emission limits...It also mandated that each permit...shall set forth monitoring requirements to assure compliance with the permit terms and conditions.”). Thus, Title V requirements aim to “enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements.” *Operating Permit Program, Final Rule*, 57 Fed. Reg. 32,250, 32,251 (July 21, 1992).

Title V permits must include compliance certification, testing, monitoring, reporting, and recordkeeping requirements that sufficiently assure compliance with the terms and conditions of the permit. 42 U.S.C. § 7661c(c); 40 C.F.R. § 70.6(c)(1). In accordance with 40 C.F.R. § 70.7(a)(5), “the permitting authority shall provide a statement that sets for the legal and factual basis for the draft permit conditions.” This “statement of basis” must include, among other things, a reasoned explanation for why the selected monitoring, recordkeeping, and reporting requirements are sufficient to assure the facility’s compliance with each applicable requirement.<sup>10</sup>

Title V regulations include several procedural requirements to ensure that members of the public have a meaningful opportunity to review and comment on a draft permit. A Title V permit may not be issued unless all of the public participation requirements set forth in 70.7(h) are satisfied. 40 C.F.R. § 70.7(a)(1)(ii). Among other things, the permitting authority must provide the public with at least 30 days to review and comment on a draft permit. 40 C.F.R. § 70.2, § 70.7(h)(4); *see also* 42 U.S.C. § 7661a(b)(6). Following public review, the permitting authority is to prepare a proposed permit in light of its consideration of public comments, and send the permit that it proposes to issue to EPA for a 45-day review period. 42 U.S.C. § 7661d(a), (b)(1); 40 C.F.R. § 70.8(a), (c); *see also* 40 C.F.R. § 70.2 (defining “proposed permit” as “the version of a permit that the permitting authority proposes to issue and forwards to the Administrator for review in compliance with § 70.8.”).

If a state proposes a Title V permit that fails to include and assure compliance with all applicable Clean Air Act requirements, EPA must object to the issuance of the permit before the end of the 45-day review period. 42 U.S.C. § 7661d(b)(1); 40 C.F.R. § 70.8(c). If EPA does not object to a Title V permit, “any person may petition the Administrator within 60 days after the expiration of the Administrator’s 45-day review period... to take such action.” 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d). The Clean Air Act provides that EPA “shall issue an objection...if the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of the” Act. 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(c)(1); *see also N.Y. Pub. Interest Group v. Whitman*, 321 F.3d 316, 333 n.12 (2d Cir. 2003) (explaining that under Title V, “EPA’s duty to

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<sup>10</sup> *See, e.g., In re Los Medanos Energy Center*, EPA Order in Response to Petition (May 24, 2004), available at [https://www.epa.gov/sites/production/files/2015-08/documents/los\\_medanos\\_decision2001.pdf](https://www.epa.gov/sites/production/files/2015-08/documents/los_medanos_decision2001.pdf).

object to non-compliant permits is nondiscretionary”). EPA must grant or deny a petition to object within 60 days of its filing. 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d).

## GROUNDS FOR OBJECTION

For all the reasons set forth below, the HPS permit fails to comport with procedural and substantive requirements of the Clean Air Act. Each of these objections was raised in the public comments that Petitioners timely submitted to ADEQ.<sup>11</sup>

### **I. ADEQ’s Concurrent Review Process Violates the Clean Air Act’s Procedural Requirements and Undermines Public Participation.**<sup>12</sup>

The Clean Air Act and EPA’s Title V regulations establish a clear order of action for Title V permitting that requires ADEQ to first solicit public comment on the draft permit, and then, based on consideration of those comments, send EPA a proposed permit that ADEQ intends to issue. *See* 42 U.S.C. § 7661d(a) and (b); 40 C.F.R. § 70.2, § 70.7, § 70.8. In direct contravention of these requirements, ADEQ sent a *draft* permit to EPA for review prior to the start of the public comment period, and then refused to withdraw that permit from EPA’s review after receiving public comments calling for significant revisions to the draft permit.

ADEQ’s process not only violates the plain language of the Clean Air Act’s requirements, it effectively renders the public’s input on this permit irrelevant and deprives Petitioners and other members of the public of the opportunity to participate in the permitting process as afforded by the Act. It also leaves EPA to review the so-called “proposed” permit as well as this Petition without a full permit record that includes the public’s comments and ADEQ’s responses to those comments.<sup>13</sup>

By its plain terms, the Clean Air Act does not allow ADEQ to submit a proposed permit to EPA that triggers the start EPA’s 45-day review period before ADEQ has received, reviewed, and responded to public comments on the draft permit. A “draft permit” is not a “proposed permit.” The Act clearly distinguishes between them, requiring ADEQ to provide an opportunity for public comment and a hearing on a “draft permit,” and then—after consideration of public comments and deciding the content of the permit the state proposes to issue—provide EPA with a “proposed permit.”

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<sup>11</sup> Specific citations to comments are provided in footnotes to the heading of each objection below.

<sup>12</sup> *See* Petitioners’ Comments at 23. Although Petitioners raised this issue with sufficient specificity in the public comments by pointing out that ADEQ must withdraw the draft permit from EPA review, it is important to note that the grounds for this petition did not arise until after the close of the comment period. Petitioners could not have known when they submitted their comments that ADEQ would fail to withdraw the draft permit from EPA review while considering public comments and making any necessary revisions. Therefore, Petitioners may properly petition for an objection on these grounds. *See* 42 U.S.C. § 7661d(b)(2) (a petition to object “shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period).”).

<sup>13</sup> Because the “proposed” permit is the same as the draft permit and does not reflect ADEQ’s consideration of comments received on the draft permit, we refer to the permit as the “draft” permit throughout the remainder of these comments.

In particular, both the Act and EPA’s Title V regulations require that the State must give EPA 45 days to review the “proposed permit” and decide whether to issue an objection. 42 U.S.C. §§ 7661d(a) and (b); 40 C.F.R. §70.8; 70.7(a)(1)(v). It does not satisfy these requirements to submit a *draft* permit to EPA. The Act makes clear that a state permitting authority must transmit to the Administrator “a copy of each permit *proposed* to be issued and issued as a final permit,” and the “proposed permit” is the version of the permit upon which EPA will base its 45-day review. 42 U.S.C. § 7661d(a)(1)(B),(b)(1) (emphasis added).

Likewise, EPA’s regulations plainly and deliberately distinguish between a “draft permit” and a “proposed permit,” and specify review requirements for each. A “draft permit” is the version of the permit that the permitting authority submits for public review and comment pursuant to 40 C.F.R. § 70.7(h). 40 C.F.R. § 70.2 (“Draft permit means the version of a permit for which the permitting authority offers public participation under § 70.7(h) or affected State review under § 70.8 of this part.”). By contrast, a “proposed permit” is “the version of the permit that the permitting authority proposes to issue and forwards to the Administrator for review in compliance with § 70.8.” *Id.*; *see also* 40 C.F.R. § 70.8(a)(1) (requiring that the permitting authority “provide to the Administrator a copy of each permit application . . . , each proposed permit, and each final part 70 permit”); *id.* § 70.8(a)-(c) (illustrating that “draft permit” which is provided “to any affected State on or before the time that the permitting authority provides this notice to the public,” and “proposed permit,” which must be provided “to the Administrator,” are different documents, and making clear that the EPA Administrator’s 45-day review period applies to the “proposed permit”); 40 C.F.R § 70.8(c)(1) (“No permit... shall be issued if the Administrator objects to the issuance in writing within 45 days of receipt of the *proposed permit* and all necessary supporting information.”) (emphasis added). The regulations clearly refer to the “draft” when describing the version of the permit that exists prior to the close of the 30-day public comment period, and “proposed” when describing the version that follows the close of the 30-day public comment period.

In designing the Clean Air Act Title V process in this way, Congress paid particular attention to the importance of public participation and promised “[a]dequate” and “reasonable procedures...for public notice, including an opportunity for public comment and a hearing.” 42 U.S.C. § 7661a(b)(6). A “proposed permit” is one that a state has created after assuring those opportunities, precisely to make sure both that the state considers any public comments *before* deciding what permit to propose to EPA, and to make sure that EPA also considers any public comments while deciding whether to object to a permit proposed by a state. Indeed, Congress clearly intended for state permitting authorities to consider and resolve public concerns about a draft permit *before* it proposes the permit, and before EPA determines whether to object to the “proposed permit.” Section 502(b)(2) provides that a petition to object “shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period).” 42 U.S.C. § 7661d(b)(2). Relatedly, EPA’s regulations provide that the “permitting authority shall keep a record of the commenters and also of the issues raised during the public participation process so that the Administrator may fulfill his obligation under section 505(b)(2) of the Act to determine whether a citizen petition may be granted.” 40 C.F.R. § 70.7(h)(5).

The Act and the regulations differentiate between a “draft” permit and a “proposed” permit for important reasons that are central to implementation of Title V and its purpose. Because a “draft permit” has not yet been subject to public scrutiny, it does not (and cannot) account for any defects and/or improvements identified by members of the public, or an affected state. The “proposed permit,” on the other hand, is issued after the permitting authority’s consideration of any public comments (or other state comments) submitted during the comment period on the draft permit, and is therefore a version that the state creates after considering and addressing the public’s concerns (as well as any concerns of other affected states).

The United States District Court of the District of Columbia has explained how the Title V permitting process is required to work. In *Sierra Club v. Whitman*, the Court held that a state’s submission of a “draft” permit to EPA “did not commence the Administrator’s 45-day review period.” Slip Op. at 16-17, No. 01-01991-ESH (D.D.C. Jan 30, 2002) (Attachment E). There, the court considered whether a state’s submission of a draft permit for EPA review just one day after the permit was made available for public review triggered EPA’s 45-day review period under the Act, as EPA contended. Rejecting EPA’s argument that its 45-day review period began when the permitting authority submitted a “draft” permit to EPA, the court held that it is incorrect and unlawful to treat a “draft” permit that has not been subject to public review as the “proposed” permit for purposes of EPA’s review. *Id.* (citing 42 U.S.C. § 7661d(a)(1), (b)(1), (b)(6)); 40 C.F.R. § 70.7(h)(4)). The court explained that the Act and the Title V regulations clearly distinguish between “draft” permits and “proposed” permits based on whether the public comment period was completed at the time the document was provided to EPA. *Id.* The court’s ruling confirmed that a “proposed” permit that triggers EPA’s 45-day review period is the version prepared by the permitting authority *after* it has had an opportunity to consider all of the concerns raised about the “draft” permit during the public comment period and hearing. *Id.* As the court explained, the state permitting agency “simply did not have the statutory authority to submit a proposed permit before the close of the 30-day public comment period.” *Id.* at 17 (citing 42 U.S.C. § 7661d(a)(1); 40 C.F.R. § 70.7(h)).

Significantly, the court also explained that “permitting EPA review prior to the close of the public comment period would undermine the ability of the public to participate in the permitting process and thereby frustrate the purposes of the Act.” Slip Op. at 17. Citing Congress’ promise of “[a]dequate” public notice and comment procedures, the court noted that a “permit program would not be ‘adequate’ if it allowed the permitting authority to pass on and EPA to review a draft permit that had never been subjected to public scrutiny.” *Id.* In particular, a “procedure that allows for simultaneous permit review by the public and the EPA provides little time to address public comments that may raise serious questions about a draft permit. Such a process also signals the irrelevance of public input, which clearly contravenes the intent of Title V.” *Id.* at 17-18.

Thus, concurrent review that treats a draft permit as a proposed permit is unlawful. Such a process violates the plain text of the statute and EPA regulations designed both to ensure adequate EPA review and to allow for meaningful public participation and consideration of public comments by the permit decisionmakers (the state and EPA).

At a bare minimum here, ADEQ was required to withdraw the permit from EPA's review after receiving relevant public comments, and ADEQ's failure to do so is flatly inconsistent with the Clean Air Act provisions cited above. EPA must object to the permit at the very least because public comments have been received, thus changing the permit record in ways that ADEQ must consider and address before submitting a proposed permit to EPA for its 45-day review. ADEQ's refusal to withdraw the permit from EPA's review indicates that ADEQ will not consider or address the public comments it has received at all, and is a blatant violation of Title V and the public participation requirements cited above.

EPA has generally recognized that Title V and public participation requirements require the permitting authority to withdraw the permit from EPA's review if public comments are filed or a public hearing is held on the draft permit because the public's input through their comments and the hearing require consideration and change the permit record. *See, e.g.*, EPA, Approval of Revisions and Notice of Resolution of Deficiency for Clean Air Act Operating Permit Program in Texas, 70 Fed. Reg. 16,134, 16,137 (Mar. 30, 2005) (approving state program that ensured "that EPA's review period may not run concurrently with the State public review period if any comments are submitted or if a public hearing is requested" after finding this "consistent with section 505(b) of the Act and 40 CFR 70.8"). For example, in 2016, in proposing to change the Title V regulations to ensure no state could try to avoid the proposed permit requirement, EPA explained that a permit cannot be considered "proposed" if submitted before the public participation process has been completed and if the permitting authority receives comment on the draft permit which would require "revisions to the permit or permit record," including an "RTC," which is the permitting authority's response to any such comments. EPA, Revisions to the Petition Provisions of the Title V Permitting Program, 81 Fed. Reg. 57,822, 57,839 (Aug. 24, 2016); *id.* at 57,844-45 (proposing revisions to 40 C.F.R. § 70.8(a)(1) and stating that "[t]he agency considers both the statement of basis and the written RTC to be integral components of the permit record.").

In sum, EPA must grant this petition because ADEQ has not submitted the permit that it proposes to issue as final to EPA for a 45-day review period. While it is never lawful for a permitting authority to propose to issue a permit as final before soliciting and considering public comment, ADEQ's refusal to withdraw the HPS permit from EPA review even after receiving substantial public comment calling for changes to the permit makes the procedural violation here especially egregious. Because EPA's 45-day review period concluded two days before the public comment period on the draft permit closed, EPA did not have the benefit of public comments and ADEQ's response to those comments when it reviewed the "proposed" permit. Furthermore, if ADEQ ultimately refuses to revise the draft permit in response to Petitioners' comments, EPA will not have a chance to object to ADEQ's decision on its own accord (and the public does not receive the benefit of EPA's independent review). Finally, because Petitioners are forced to file their petition with EPA prior to receiving ADEQ's response to their comments on the draft permit, the petition necessarily lacks any analysis by Petitioners as to why ADEQ's (ultimate) response is inadequate, assuming that ADEQ provides a response. In numerous Title V petition orders, EPA has emphasized the importance of petitioners addressing the permitting authority's response to their comments and explaining why the permit is nonetheless deficient. Indeed, EPA has often denied Title V petitions, at least in part, on the basis of a petitioner's failure to adequately address the permitting authority's response to concerns raised during the public

comment period, even though this requirement does not appear in Title V or in EPA's part 70 regulations. *See* 81 Fed. Reg. at 57,832 (citing EPA orders). It would be arbitrary and capricious—not to mention fundamentally unfair—for EPA to read into the statute and regulations a requirement that petitioners address a permitting authority's response to their comments as a prerequisite to obtaining EPA's objection, but to allow a permitting authority to proceed with proposing a permit's final issuance and ultimately issuing a final permit<sup>14</sup> without considering and responding to public comments.

The concurrent review process that ADEQ has used for this permit plainly does not satisfy the Clean Air Act's Title V statutory and regulatory requirements. Accordingly, EPA must object to this permit and direct ADEQ to not issue the permit without first considering the public comments and then submitting a proposed permit for EPA's full 45-day review period as required.

## **II. ADEQ's Permit Does Not Comply with the Clean Air Act's Substantive Requirements.**

### **A. The Draft Permit Fails to Restrict the Facility's Potential VOC and NOx Emissions to Below the PSD Applicability Threshold.<sup>15</sup>**

ADEQ classifies the HPS plant as a "synthetic minor" source based on HPS' agreement to accept enforceable operating or production limits that restrict the facility's potential to emit (PTE) for pollutants like VOCs and NOx to below the PSD applicability threshold of 250 tons per year (tpy). The primary permit condition that serves as a PTE limit is Condition VI.7, which limits wood pellet production to 826,733 tpy.<sup>16</sup> As demonstrated below, however, this production limit is far too high to restrict VOC emissions to below the 250 tpy threshold. Likewise, the draft permit conditions also are insufficient to restrict NOx emissions below the major source threshold.

HPS made three distinct errors in estimating the facility's PTE. First, HPS failed to address recent stack tests that show vastly higher levels of VOCs than HPS calculates. Second, HPS failed to account for VOC emissions from numerous units, each of which individually pushes the facility's PTE over the PSD applicability threshold. Finally, even accepting HPS' underlying assumptions concerning VOC and NOx emissions as legitimate, HPS miscalculated maximum annual emissions for both pollutants; properly calculated, these emissions exceed the major source threshold even if HPS' emission factors are accepted as valid.

Because the draft permit neither effectively restricts HPS' VOC and NOx emissions below the 250 tpy PSD applicability threshold nor requires HPS to comply with PSD requirements, EPA must object to its issuance.

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<sup>14</sup> Title V authorizes a permitting authority to issue a permit as final if EPA does not object during its 45-day review period.

<sup>15</sup> *See* Petitioners' Comments at 2-10.

<sup>16</sup> 750,000 metric tons (as set forth in the permit) equals 826,733 short tons. *See supra*, note 5.

**1. HPS Dramatically Underestimated VOC Emissions, and the Facility’s PTE for VOCs Far Exceeds the 250 tpy Major Source PSD Threshold at the Permitted Production Rate.**

HPS estimates that at the production rate of 826,733 tpy, the facility will emit 245.6 tpy of VOCs, just shy of the major source threshold of 250 tpy.<sup>17</sup> In numerous ways, HPS failed to correctly calculate its PTE for VOCs. Correctly calculated, potential VOC emissions vastly exceed the major source threshold.

**i. Recent Stack Tests Show HPS Severely Underestimated VOC Emissions.**

To calculate potential VOC emissions, HPS relies on “manufacturer test data” from 2014 tests conducted at the Hazlehurst wood pellet plant in Georgia.<sup>18</sup> Given that the Hazlehurst plant and the proposed HPS plant are essentially identical,<sup>19</sup> using the Hazlehurst test is a reasonable starting point to estimate potential emissions at HPS. While the 2014 tests do seem to indicate that the eight units in question (the four pre-dryer outlets and the four pellet coolers) will emit VOCs at rates below the major source threshold, more recent tests from that facility as well as from the “nearly identical” existing Highland Pellets plant in Pine Bluff, Arkansas (the “Highland Pellets Pine Bluff mill”),<sup>20</sup> show that potential VOC emissions are in fact much higher.

The design of HPS, Hazlehurst, and the existing Highland Pellets Pine Bluff mill are essentially identical; each plant has two major emission points per production line (Highland Pellets Pine Bluff has four production lines, as will HPS, while Hazlehurst has three production lines). The first emission point in the production line, the pre-dryer baghouse, includes emissions from the pre-dryer, the primary dryer, hammermills, and pellet mills, which are all vented to the pre-dryer bark burner for VOC control and then finally to the “pre-dryer baghouse.” Second, emissions from the pellet coolers vent to the “scavenge baghouse” with no VOC controls. All of the test results for these two emission points, including the 2014 Hazlehurst tests and the subsequent tests at that facility and the Highland Pellets Pine Bluff mill, are set forth in the following table:

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<sup>17</sup> ADEQ, Statement of Basis for Draft Permit No. 2389-AOP-R0, at 2.

<sup>18</sup> E-mail from Taylor Deems, Environmental Engineer, ECCI, to Paula Parker, ADEQ (Sept. 21, 2017) (transmitting “Manufacturer test data.pdf” in response to ADEQ’s request for additional information) (Attachment F).

<sup>19</sup> Hazlehurst Wood Pellets and the existing Highland Pellets mill were both designed and constructed by Astec Industries, and HPS has stated that the Stephens mill will be “nearly identical.” See Letter from Taylor Deems, Environmental Engineer, ECCI, to Stuart Spencer, ADEQ, re: Title V Initial Permit Application (Aug. 17, 2017) (Attachment G).

<sup>20</sup> *Id.*

<b>Table 1: Stack Test Results for VOC Emissions From Pre-Dryer Baghouse</b> (emission point includes pre-dryer, dryer, hammermills, and pellet mills)					
Facility	Test Date	Production rate (tph)	Emission rate (lb/hr)	Emission Factor (lb/ton)	Emissions at HPS (tpy) <sup>21</sup>
Hazlehurst	8/28/2014	21	2.43	0.12	47.77
Hazlehurst	12/16/2015	19.5	2.44	0.13	51.66
Hazlehurst	1/31/2017	18	13.65	0.76	313.09
Highland Pellets Pine Bluff	9/6/2017	19.8	7.5	0.38	156.39
Highland Pellets Pine Bluff	10/26/2017	19.4	4.8	0.25	102.15

<b>Table 2: Stack Test Results for VOC Emissions from Scavenge Baghouse</b> (pellet coolers)					
Facility	Test Date	Production rate (tph)	Emission rate (lb/hr)	Emission Factor (lb/ton)	Emissions at HPS (tpy) <sup>22</sup>
Hazlehurst	8/28/2014	21	6.41	0.31	126.02
Hazlehurst	12/16/2015	20	12.4	0.62	255.98

Note: stack test citations are provided in Appendix A, and test reports are attached.

As the test results show, the 2014 testing that HPS relies upon is vastly lower than subsequent tests at that plant and the Highland Pellets Pine Bluff mill. While we acknowledge that the 2017 Hazlehurst testing occurred while combusting natural gas rather than wood, which may have impacted emissions, there appears to be no reason why the other tests would not be representative of HPS' potential emissions. Importantly, these tests demonstrate that HPS has the potential to emit VOCs at rates greatly exceeding the major source threshold of 250 tpy. For example, the 2015 Hazlehurst test shows that HPS' pellet coolers *alone* have a PTE that exceeds the major source threshold—combined with the September 2017 Highland Pellets Pine Bluff mill pre-dryer test, the two units have a PTE of at least 411 tpy.

Finally, we note that HPS' pellet cooler estimates are not only lower than recent testing at Hazlehurst, but that across the industry, facilities that have conducted testing on pellet coolers have shown significantly higher rates than the 2014 Hazlehurst tests. The table below shows stack tests for VOC emissions from uncontrolled pellet coolers at plants processing more than 50% softwood:

<sup>21</sup> Calculated by multiplying the emission factor by a production rate of 826,733 tons per year.

<sup>22</sup> *Id.*

<b>Table 3: Pellet Cooler Emission Factors from Other Wood Pellet Plants</b>				
Facility	Softwood %	State	Emission Factor (lb/ton)	Emissions at HPS (tpy)
Enviva Amory	60%	MS	1.60	660.59
German Pellets	Likely 100%	TX	1.54	635.81
Georgia Biomass (with steam injection)	Likely 100%	GA	1.3	536.73
Colombo Energy	80%	SC	1.27	524.34
Green Circle (now Enviva Cottondale)	95%	FL	0.87	359.62
Enviva Wiggins	60%	MS	0.85	351.36
Hazlehurst 2015 test	Unknown	GA	0.62	256
Enviva Sampson	52%	NC	0.50	208.08
Georgia Biomass (w/o steam injection)	Likely 100%	GA	0.50	206.43
Hazlehurst 2014 test	Unknown	GA	0.31	126.02

*Note:* stack test citations are provided in Appendix A, and test reports are attached.

As this table demonstrates, stack tests from similar mills show VOC emissions significantly higher than the 2014 Hazlehurst stack tests. While these pellet coolers may not be identical to those at HPS, these tests confirm that pellet coolers in general are significant sources of VOCs, and further that the 2015 Hazlehurst emission factor of 0.62 lb/ODT (equating to 256 tons of VOCs from HPS’ pellet coolers alone) is not exceptionally high for pellet coolers. In fact, only two tests produced lower emission factors, and one of those two was conducted while processing just 52% softwood. As EPA and ADEQ are likely aware, processing softwood results in substantially higher levels of VOC emissions than processing hardwood.<sup>23</sup> We note that we have been unable to ascertain the softwood percentage utilized during the Hazlehurst and Highland Pellets Pine Bluff, which means those tests may not be representative of HPS’ PTE, since the draft permit would allow HSP to process up to 100% softwood.

Nothing in the permit record nor HPS’ application explains why the 2014 Hazlehurst stack test is an appropriate basis for calculating PTE in light of the more recent and higher tests at Hazlehurst and Highland Pellets Pine Bluff (in fact, it’s not even clear that HPS has brought these tests to ADEQ’s attention). As discussed below in more detail, PTE is a worst case emission calculation, meaning unless HPS demonstrates that it is somehow not capable of emitting VOCs at the rates

<sup>23</sup> Processing softwood emits substantially higher levels than hardwood. *See, e.g.*, EPA, AP-42: Compilation of Emission Factors, § 10.6.2, Table 10.6.2-3, comparing VOC emissions between softwood dryers and hardwood dryers.

given from testing at the “nearly identical” sister plants, ADEQ must utilize the higher emission factors.

**ii. HPS Did Not Quantify VOC Emissions from Numerous Sources.**

HPS apparently assumes that the two emission points discussed above, along with the emergency generators, are the only sources of VOCs at the proposed plant. Testing at other pellet mills, however, shows that this is simply not true. These tests demonstrate that, at a minimum, the green hammermills and pellet storage silos at HPS are significant sources of non-fugitive VOC emissions. In fact, Hazlehurst has estimated that its storage silos are the single largest source of VOC emissions at that plant, as discussed below.

Nothing in HPS’ application, nor in the permit record, explains how HPS is somehow unique in that its green hammermills and pellet storage and handling emit zero or insignificant levels of VOCs. The table below shows the available stack tests and emission factors from recent permits for VOC emissions from green hammermills:

<b>Table 4: VOC Emission Factors for Green Hammermills</b>			
Facility and Source	Softwood %	Emission Factor (lb/ODT)	Emissions at HPS (tpy)
Enviva Amory Test	60%	0.29	120
Enviva Sampson Test	80%	0.203	83
Enviva Wiggins Test	60%	0.2	84
Enviva Northampton Application <sup>24</sup>	80%	0.32	132
Enviva Southampton Application <sup>25</sup>	80%	0.32	132

*Note:* stack test citations are provided in Appendix A, and test reports are attached.

Although each of these plants is an Enviva plant, both Amory and Wiggins were constructed by other companies, meaning the rates listed above from stack testing represent three distinct designs and operations.<sup>26</sup> Additionally, the rates from those tests likely underestimate HPS’ PTE for VOCs, since each test occurred while processing less than 100% softwood. As HPS will be allowed to process 100% softwood, PTE calculations must assume 100% softwood.

<sup>24</sup> Ramboll, Permit Modification Application for PSD Minor Source Status, Enviva Pellets Northampton (Sep. 28, 2018), Appendix C, Table 3b. (Attachment X).

<sup>25</sup> Ramboll, Application for Modification of Stationary Source Permit for Increased Softwood Utilization and Installation Emission Controls, Enviva Southampton (Sep. 28, 2018), Appendix C, Table C-4. (Attachment Y).

<sup>26</sup> Enviva purchased the Wiggins plant from Tomorrow Energy and acquired the Amory plant from CKS Energy. See Biomass Magazine, “Enviva Acquires Pellet Plants, Expands Production” (Oct. 13, 2010), available at: <http://biomassmagazine.com/articles/5044/enviva-acquires-pellet-plants-expands-production>. (Attachment Z).

Finally, the following table provides information on non-fugitive VOC emissions from pellet storage and/or dried wood storage and handling. The table includes the one stack test we know of and recent permits and applications for pellet plants. Most notably, this includes the Hazlehurst plant, which has utilized the 0.4 lb/ODT emission factor in its applications.<sup>27</sup>

<b>Table 5: VOC Emission Factors for Storage and/or Handling</b>			
Facility and Source	Softwood %	Emission Factor (lb/ODT)	Emissions at HPS (tpy)
Georgia Biomass Test/ Georgia EPD Emission Factor <sup>28</sup>	Likely 100%	0.4	165
Hazlehurst Application <sup>29</sup>	100%	0.4	165
Varn Wood Products Permit <sup>30</sup>	100%	0.4	165
Enviva Northampton Application <sup>31</sup>	80%	0.12	50
Enviva Southampton Application <sup>32</sup>	80%	0.12	50

HPS intends to store pellets in five storage silos (SN-09) and then load pellets into rail cars for shipment (SN-10). By HPS’ own admission, both of these units are point sources.<sup>33</sup> ADEQ must therefore quantify the VOC emissions from these units when calculating PTE.

Given that the essentially identical Hazlehurst plant has determined that the 0.4 lb/ODT emission factor is appropriate, we see no reason why any other emission factor should be used for pellet storage and loadout at HPS. Additionally, we note that HPS has already utilized Georgia EPD emission factors (based on that same set of tests) for certain emissions in its application,<sup>34</sup> so we again fail to see why HPS should not do so for storage and handling. Using the 0.4 lb/ODT factor results in 165 tons of VOC emissions from HPS’ pellet storage and loadout.

Together, the green hammermill and storage silo emission factors represent 285 tons of potential VOC emissions at HPS (using, as we believe is appropriate, the highest emission factors from

<sup>27</sup> Hazlehurst Wood Pellets, PSD Minor Source Air Permit Application (Feb. 2013), Table 3-2: Summary Emissions Calculations (Excerpt attached as Attachment AA).

<sup>28</sup> The Georgia Environmental Protection Division (EPD) has developed and published a set of emission factors for wood pellet plants, which to our knowledge is the only set of agency-published emission factors available for this industry. The Georgia EPD emission factors have been used widely by both pellet plants (including HPS and permitting agencies in neighboring states). See Memorandum from Manny Patel, Georgia EPD, to Eric Cornwell, Georgia EPD, entitled “Emission Factors for Wood Pellet Manufacturing” (Jan. 29, 2013). (Attachment T).

<sup>29</sup> *Supra*, note 13.

<sup>30</sup> Georgia EPD, Part 70 Operating Permit No. 2421-025-0001-V-04-0 for Varn Wood Products (Aug. 2, 2018), at 19. (Attachment BB).

<sup>31</sup> *Supra*, note 10, at Table 7.

<sup>32</sup> *Supra*, note 11, at Table C-20.

<sup>33</sup> HPS Application, Emissions Summary, page 21 of pdf (showing pellet storage and pellet loadout as non-fugitive sources of particulate matter emissions).

<sup>34</sup> *Id.*, Table “VOC EMISSIONS – Hammermill/Cyclone to Heater,” page 25 of pdf.

existing testing). Even using the lowest emission factors for both sources, the green hammermills and pellet storage silos *still* have a PTE that equates to 134 tons of VOCs per year. Therefore, even accepting HPS' flawed PTE estimate of 245.6 tpy for the rest of the facility, it is still absolutely clear that the facility's PTE vastly exceeds the 250 tpy PSD threshold—given these tests, it is simply not plausible that the additional units discussed herein emit less than 4.4 tpy of VOCs.

### **iii. HPS Has Not Properly Calculated PTE for VOCs Even Using HPS' Emission Factors.**

The draft permit allows HPS to produce up to 826,733 short tons per year of pellets and to operate 8,760 hour per year, yet HPS seems to calculate PTE for all pollutants based on a lower production and operating rates. As a result, each of HPS' calculations for annual emissions is about 3% to 5% lower than it should be even using HPS' preferred emission factors. For instance, for VOC emissions from each of the four pellet coolers, HPS gives an estimate of 33.7 tpy,<sup>35</sup> yet multiplying 826,733 tpy by the given emission factor of 0.347 lb/ODT results in 35.8 tpy for each of the four pellet cooler lines.<sup>36</sup> When applied to all four pellet coolers, this discrepancy alone results in a facility-wide PTE of 254 tpy.<sup>37</sup>

Nothing in the permit application, nor the statement of basis, which adopts HPS' emission calculations wholesale, provides an explanation for why annual PTE should not be calculated using the maximum allowable annual production rate. While the difference is relatively small, it does have the rather significant consequence of artificially reducing PTE to below the major source threshold without justification. ADEQ must verify that it has reviewed and approved HPS' PTE calculations, and explain why this discrepancy alone should not render HPS a major source.

### **iv. Properly Calculated, HPS' VOC PTE Exceeds the PSD Applicability Threshold at the Permitted Production Rate.**

As the above discussion shows, HPS has a PTE for VOCs that greatly exceeds the major source PSD threshold at the permitted production rate of 826,733 short tons of wood pellets per year. Nothing in the permit changes that fact. As EPA and courts have explained, PTE is a "worst case emissions calculation" taking into account enforceable limits on production and operations.<sup>38</sup> In other words, "PTE is not to be confused with actual emissions, which may be significantly lower."<sup>39</sup> Further, EPA has explained that PTE limits must in turn be based on worst case emission calculations.<sup>40</sup> Thus, EPA and ADEQ cannot ignore the recent stack tests at both

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<sup>35</sup> *Id.*, Emissions Summary, page 22 of pdf.

<sup>36</sup> *Id.*, Table "VOC EMISSIONS – Pellet Coolers to Scavenge Baghouse," page 27 of Application.

<sup>37</sup> We calculate the PTE as such:  $35.8 - 33.7 = 2.1$  tpy for each of the four pellet coolers; therefore  $2.1 \times 4 = 8.4$  tpy, and  $245.6 + 8.4 = 254$  tpy.

<sup>38</sup> *Voigt*, 2018 U.S. Dist. LEXIS 111913, at \*84 (citing *In re Peabody Western Coal Co.*, 12 E.A.D. 22 (E.P.A., Feb. 18, 2005)).

<sup>39</sup> *Id.*

<sup>40</sup> *In re Peabody Western Coal Co.*, 12 E.A.D. 22, 38 (E.P.A. February 18, 2005) (rejecting a proposed PTE limit because it was crafted by utilizing average emission factors, which, by definition, is lower than the worst case emissions).

Hazlehurst and the existing Highland Pellets Pine Bluff mill. These tests demonstrate that HPS is absolutely capable of emitting vastly higher levels of VOCs than it represents in its application. Because PTE is a “worst case” emissions calculation, EPA and ADEQ must at a minimum use the highest emission factor from the available tests for each unit to calculate PTE and the related production limit, unless HPS can demonstrate that it is somehow distinct and not capable of emitting at those rates. Even if ADEQ discounts the January 2017 Hazlehurst dryer testing due to that test occurring while combusting natural gas, we see no reason why ADEQ can reject the highest remaining tests. Using emission factors from those tests, the pre-dryer outlets and the pellet coolers have a PTE of 411 tpy.

Likewise, ADEQ cannot assume that the green hammermills and pellet storage are insignificant sources of VOC emissions without justification. The permit record is completely devoid of any reason to assume these sources emit anything less than the rates given by the available testing. Combined with the recent test results for the pre-dryer outlets and the pellet coolers, this results in a PTE of 696 tpy.

If HPS wishes to remain a synthetic minor source and does not opt to install VOC controls on its pellet coolers, then ADEQ must significantly reduce the permit’s production limit. We calculate that, accepting the worst-case emission factors from the available testing and accounting for the green hammermill and storage silo emissions (as ADEQ must), the draft permit must restrict production to 241,000 tpy or less.<sup>41</sup> At that rate, the facility will have a PTE of 249 tpy for VOC emissions.

If ADEQ concludes that the 2017 Hazlehurst testing for wood dryer emissions is not representative of HPS’ PTE (and that the test results cannot be adjusted to accommodate any difference resulting from Hazlehurst’s use of natural gas during the testing), then based on the recent dryer testing at Highland Pellets, ADEQ must restrict production to 295,000 tpy.<sup>42</sup> In this scenario, ADEQ must provide the basis for concluding that the emission rate during the 2017 Hazlehurst testing does not represent HPS’ maximum emissions (i.e. why the use of natural gas would lead to higher VOC emissions as compared to the use of biomass fuel).

**v. The Draft Permit’s Unit-Specific Emissions Limits are Insufficient to Restrict the Facility’s VOC PTE to Below the PSD Applicability Threshold.**

Aside from the inadequate wood pellet production limit, the draft permit also establishes VOC and NOx emission limits for certain units. These unit-specific emissions limits are insufficient to restrict facility-wide PTE for several reasons.

First, EPA has consistently explained that to properly limit PTE to avoid PSD applicability, a permit “must contain a production or operational limitation *in addition to* the emission limitation

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<sup>41</sup> Emission factors used for this calculation and their source: pre-dryer outlet: 0.38 lb/ODT (2016 Hazlehurst testing), pellet coolers: 0.62 lb/ODT (2015 Hazlehurst testing), green hammermills: 0.29 lb/ODT (Enviva Amory test), pellet storage and loadout: 0.4 lb/ODT (Georgia EPD Emission Factors/Georgia Biomass Testing).

<sup>42</sup> We use the same emission factors as above, *Id.*, except we have used the emission factor of 0.38 lb/ODT for the pre-dryer outlet, derived from the September 2017 Highland Pellets testing.

in cases where the emission limitation does not reflect the maximum emissions of the source operating at full design capacity without pollution control equipment.”<sup>43</sup> As explained above, the draft permit’s wood pellet production limit is far from adequate to restrict the facility’s VOC emissions below the PSD applicability threshold. Thus, even if the unit-specific emission limits served to restrict facility-wide VOC emissions to below the PSD applicability threshold—which they do not—they would be inadequate to enable HPS to avoid PSD applicability because they would not be accompanied by an adequate production or operational limitation.

Second, the unit-specific emission limits do not apply to VOC-emitting units such as the green hammermills and pellet storage silos. As shown above, when VOC emissions from these units are considered along with the authorized VOC emissions from the drying and pelletizing operations, facility-wide potential VOC emissions easily exceed the PSD applicability threshold. Thus, the draft permit’s unit-specific emission limits are insufficient to restrict facility-wide VOC emissions to below the PSD applicability threshold.

Finally, the hourly and annual VOC emission limits on the pellet coolers are not enforceable as a practical matter because the draft permit exempts those units from compliance testing and lacks any other meaningful monitoring. *See* Specific Condition 28, SN-08 A-D (Pellet Screen and Cooling A-D). EPA has repeatedly explained that a limit intended to restrict PTE “can be relied upon . . . only if it is legally and practicably enforceable.”<sup>44</sup> EPA has further explained that practical enforceability means PTE limits must be accompanied by “terms and conditions . . . sufficient to enable regulators and citizens to determine whether the limit has been exceeded and, if so, to take appropriate enforcement action.”<sup>45</sup>

Because the permit is completely devoid of monitoring for VOC emissions from the pellet coolers, nothing in the permit will enable regulators and citizens to determine whether the facility is complying with the emission limits. The limits are therefore unenforceable as a practical matter, and the unit-specific limits cannot be considered when calculating PTE.

## **2. The Draft Permit Fails to Restrict NO<sub>x</sub> Emissions to Below the Major Source Threshold.**

The four bark burners each have a nameplate heat input capacity of 65 MMBtu/hr,<sup>46</sup> which equates to a facility-wide heat input rate of 2,277,600 MMBtu/yr. It appears that ADEQ intended to limit the combined heat input of each bark burner to no more than 550,000 MMBtu/yr (for a facility-wide limit of 2,200,000 MMBtu/yr), and likewise, HPS has calculated its PTE based on

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<sup>43</sup> EPA, “Guidance on Limiting Potential to Emit in New Source Permitting,” (June 13, 1989), at 5 (emphasis added).

<sup>44</sup> *In the Matter of Kentucky Syngas, LLC*, Order on Petition No. IV-2010-9, at 30 (E.P.A. June 22, 2013), [https://www.epa.gov/sites/production/files/2015-08/documents/kentuckysyngas\\_response2010.pdf](https://www.epa.gov/sites/production/files/2015-08/documents/kentuckysyngas_response2010.pdf).

<sup>45</sup> *In the Matter of Orange Recycling & Ethanol Prod. Facility, Pencor-Masada Oxynol, LLC.*, Order on Petition No. II-2001-05, at 7 (E.P.A. Apr. 8, 2002), [https://www.epa.gov/sites/production/files/2015-08/documents/masada-2\\_decision2001.pdf](https://www.epa.gov/sites/production/files/2015-08/documents/masada-2_decision2001.pdf); *see also In re Piedmont Green Power, LLC*, Order on Petition No. IV-2015-2 (Dec. 13, 2016), at 14.

<sup>46</sup> Statement of Basis at 2.

an annual heat input of 550,000 MMBtu/yr.<sup>47</sup> Unfortunately, no such limit is found in the draft permit. Without such a limit, PTE for NO<sub>x</sub> must be calculated based on the maximum design capacity of the burners, which equates to 250.5 tpy of NO<sub>x</sub> emissions from the bark burners (and 254.4 tpy including the emergency generator).<sup>48</sup>

As discussed above, to properly limit PTE, a permit must contain both an emission limit and an enforceable production or operating limit. ADEQ must therefore implement a heat input limit of 550,000 MMBtu/yr for each bark burner. Further, to make the limit enforceable, ADEQ must implement monitoring, recordkeeping, and reporting requirements that ensure HPS does not exceed the heat input limit. These monitoring, recordkeeping, and reporting requirements must also satisfy Title V's mandate that the permit assure compliance with all applicable requirements.

In the absence of an enforceable operational limit on the bark burners, HPS' NO<sub>x</sub> PTE exceeds the PSD applicability threshold. Because ADEQ neither included an enforceable NO<sub>x</sub> PTE limit in the HPS permit nor required HPS to comply with PSD, EPA must object to the draft permit.

### **B. The Draft Permit Fails to Restrict the Facility's Potential HAP Emissions to Below the Major Source Maximum Achievable Control Technology (MACT) Threshold.<sup>49</sup>**

As with PSD, it appears that ADEQ intends to permit HPS as a synthetic minor source (i.e. an area source) of HAPs for purposes of Clean Air Act section 112's MACT requirements, as the permit includes emission limits on several units that purportedly restrict aggregate HAP emissions to below the major source threshold of 25 tpy of combined HAPs. As with VOC and NO<sub>x</sub> emissions, however, the permit fails to properly restrict both individual and aggregate HAP emissions to below the relevant major source thresholds.

#### **1. The Draft Permit Fails to Restrict Individual HAP Emissions.**

The draft permit entirely fails to establish enforceable limits on the facility's release of individual HAPs. Rather, the only HAP emission limits in the permit are several unit-specific limits on "total" or aggregate HAP emissions to avoid the 25 tpy major source threshold. In other words, nothing in the draft permit restricts the facility's PTE for individual HAPs to below the 10 tpy major source threshold for any individual HAP.

HAP testing performed at similar plants shows that HPS has the potential to emit methanol, acrolein, and phenol at rates that approach or exceed the 10 tpy threshold for major source MACT applicability, as follows:

**Methanol:** The 2015 Hazlehurst test, for instance, shows that the HPS pellet coolers are capable of emitting methanol at the rate 4.13 tpy, while the 2017 tests at Hazlehurst show

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<sup>47</sup> *Id.* ("The emissions from each burner are based on the maximum heat input capacity of 65 MMBtu/hr and an annual heat input limit of 550,000 MMBtu/yr.")

<sup>48</sup> The NO<sub>x</sub> emission factor given by HPS is 0.22 lb/MMBtu (Application at page 26 of PDF); we therefore calculate PTE as such: (2,277,600 MMBtu/yr x 0.22 lb/MMBtu)/2000 lb/ton = 250.53 tpy.

<sup>49</sup> See Petitioners' Comments at 10-13.

that HPS' pre-dryer outlets have the potential to emit at least 6.89 tpy. Combined, this results in 11.02 tpy of potential methanol emissions.

**Acrolein:** Testing of pellet coolers at Enviva Wiggins produced an emission factor for acrolein of 0.042 lb/ODT, which would equate to 17.3 tpy at HPS.<sup>50</sup>

**Phenol:** The Enviva Wiggins testing also produced an emission factor of 0.021 lb/ODT for phenol, which translates to 8.6 tpy from HPS' pellet coolers.<sup>51</sup>

HPS has not quantified or discussed emissions of these and numerous other HAPs in any way, which is itself a failure to provide the information necessary for applying for a Title V permit that requires EPA to object.<sup>52</sup>

Due to ADEQ's failure to include in the draft permit enforceable limits that restrict facility-wide emissions of any individual HAP to below the 10 tpy threshold, the facility's potential to emit individual HAP exceeds the major source MACT applicability threshold. Because the permit neither establishes enforceable individual HAP limits nor requires compliance with major source MACT requirements set forth in Clean Air Act § 112 and 40 C.F.R. part 63, EPA must object. At a minimum, ADEQ's failure to provide a reasoned explanation for why PTE limits on individual HAP are unnecessary despite testing at similar plants showing that HPS' PTE for individual HAP likely exceeds the MACT applicability threshold means that the draft permit does not assure the facility's compliance with Clean Air Act section 112.

## **2. The Draft Permit Fails to Adequately Restrict Aggregate HAP Emissions.**

To restrict aggregate HAP emissions to below the major source threshold of 25 tpy, the draft permit relies on unit-specific emission limits. Each of the four pre-dryer outlets is subject to an annual "Total HAPs" limit of 4.50 tpy (or 18 tpy total) (Section IV, SN-07 A-D, Specific Condition 22), and each pellet cooler line is subject to a "Total HAPs" limit of 0.41 tpy (or 1.64 tpy total) (Section IV, SN-08 A-D, Specific Condition 29). As an initial matter, as explained below, because HPS incorrectly reported the HAP emission rates from the 2014 Hazlehurst test it relies upon, HPS will absolutely exceed the pellet cooler limits set forth in these conditions, and the subsequent 2015 Hazlehurst tests further confirm this. Moreover, HPS has failed to demonstrate that at the permit's production limit, aggregate HAPs for the entire facility will remain below the 25 tpy threshold.

### **i. HPS Miscalculated Formaldehyde, Acetaldehyde, and Methanol Emissions from the Facility's Pellet Coolers, and Further Failed to Account for Numerous Additional HAPs from the Pellet Coolers.**

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<sup>50</sup> Air Emission Test Report, Enviva Pellets Wiggins (Report Submitted Oct. 31, 2013, revised Nov. 14, 2013), at 9. (Attachment V).

<sup>51</sup> *Id.*

<sup>52</sup> Likewise, ADEQ has not provided sufficient information in the statement of basis for how it came to the conclusion that no single HAP exceeds the major source threshold, or what HAP emissions it evaluated before issuing the draft permit. This lack of information renders the statement of basis, and therefore the draft permit itself, deficient.

As discussed briefly above, each of the four pellet cooler lines is subject to an annual total HAP emission limit of 0.41 tpy (1.64 tpy for all four combined), and further, the more recent testing at Hazlehurst shows methanol alone exceeds this limit substantially. More to the point, however, even the 2014 manufacturer’s testing that HPS relies upon shows that the facility cannot possibly comply with the 0.41/1.64 tpy limits. This is because HPS has miscalculated or incorrectly transposed the original test data into its permit application.

The table below compares the emission factors listed in the application to the emission factors from the 2014 stack test that HPS identifies as the source of the “Mfr. test data.”<sup>53</sup>

Pollutant	Application Emission Calculations		Mfr. Test Emission Calculations	
	Emission Factor	Tons Per Year (one of four pellet coolers)	Emission Factor	Tons Per Year (one of four pellet coolers)
Formaldehyde	0.000705	0.07	0.000476	0.05
Acetaldehyde	0.000519	0.05	0.004286	0.295
Methanol	0.00293	0.28	0.002857	0.443
	Sum:	0.4	Sum:	0.79

*Note:* emission factors from the 2014 manufacturer’s test calculated using the production rates given by EPD’s test review report (Attachment C).

As this table shows, the emission factors listed in the application are, on the whole, about half the rate given by the actual manufacturer’s test. HPS has not provided any justification for its lower emission factors. Significantly, these tests again show that methanol alone will exceed the permit limit of 0.41 tpy, and that the three pollutants together vastly exceed the limit of 0.41 tpy for each pellet cooler.

More fundamentally, it is clear that ADEQ has formulated the 0.41 tpy limit based on HPS’ quantification of just three HAPs, and with no margin of error. The problem is, of course, pellet coolers emit significantly more HAPs than just the three included in HPS’ application. For instance, the Enviva Wiggins tests discussed above showed that acrolein was actually the HAP emitted at the highest rate by pellet coolers, more than twice as high as methanol, at a rate that equates to 17.36 tpy at HPS.<sup>54</sup> Other HAPs that were emitted in rates comparable to methanol were phenol (8.6 tpy at HPS) and propionaldehyde (3.72 tpy at HPS).<sup>55</sup> If these rates hold for HPS, then the pellet coolers alone exceed the major source threshold of 25 tpy based solely on acrolein and phenol emissions.

**ii. Aggregate HAPs Will Exceed the Major Source Threshold at the Allowable Wood Pellet Production Rate.**

<sup>53</sup> Application at page 27 of PDF; 2014 stack test emission factors are from Georgia EPD, Source Test Report Review for Hazlehurst Wood Pellets August 28, 2014 Tests (Dec. 12, 2014) (Attachment I).

<sup>54</sup> *Supra*, note 35.

<sup>55</sup> *Id.*

As with the pellet coolers discussed above, HPS only included a tiny handful of the HAPs emitted from the other units at the facility. For instance, for the wood dryers and pellet presses, HPS only includes formaldehyde and methanol (HPS also, bafflingly, includes methane in its HAP tables for these two units, yet methane is not a HAP).<sup>56</sup> For the hammermills, HPS adds a third HAP to the calculation, acetaldehyde. Finally, HPS calculates emission rates for nine HAPs from the wood-burning heaters.

HPS' limited HAP quantification (apparently adopted in whole by ADEQ) neglects dozens of additional HAPs, many of which are listed by EPA's AP-42 as being emitted in significant levels by wood-fired external combustion and/or by wood drying. For example, EPA's AP-42 database of emission factors contains 66 individual HAPs for wood-fired boilers, and 27 HAPs for wood drying operations.<sup>57</sup> The emission rates for these HAPs is significant. For example, the uncontrolled emissions of 11 HAPs from AP-42's wood drying (particle board manufacturing) table gives a total of 41 tpy of HAPs, yet HPS' application and the permit record are completely devoid of any reference to these HAPs.<sup>58</sup> Finally, HPS has not quantified acrolein, phenol, and propionaldehyde emissions from either the pellet coolers or the pre-dryer baghouses—as discussed above, at least one test shows these pellet coolers emit these HAPs at rates that exceed the major source threshold.

In terms of testing at Hazlehurst, those tests show that the facility has a PTE for methanol, formaldehyde, acetaldehyde, and hydrogen chloride (HCL) of at least 15.46 tpy.<sup>59</sup> That means HPS must demonstrate that the aggregate emissions of all other HAPs does not exceed 9.54 tpy. This seems unlikely. First, the Enviva Wiggins test show that at a production rate of 826,733 tpy, phenol, propionaldehyde, and acrolein emissions from the pellet coolers together amount to 29.68 tpy, for a combined facility-wide PTE of 45 tpy—before accounting for any other HAPs emitted by the dryers or the pellet coolers. As such, the production limit of 826,733 tpy appears far too high to ensure the facility does not exceed the major source threshold. EPA must therefore object because the permit fails to assure compliance with major source MACT.

Additionally, HPS has not met its burden under the Title V regulations to submit information “sufficient to evaluate the subject source . . . and to determine all applicable requirements.”<sup>60</sup> Likewise, ADEQ's failure to explain how it reviewed HPS' HAP calculations and how it determined that the emissions of the omitted HAPs will not result in the facility exceeding the major source threshold renders the statement of basis, and therefore the draft permit, defective.<sup>61</sup> These failures additionally require EPA to object.

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<sup>56</sup> Application at page 25 of PDF.

<sup>57</sup> EPA, AP-42: Compilation of Emission Factors, § 1.6 Wood Residue Combustion in Boilers, Table 1.6-3; EPA, AP-42: Compilation of Emission Factors, § 10.6.2 Particle Board Manufacturing, Table 10.6.2-3

<sup>58</sup> *Id.* Those HAPs are: acrolein, benzene, cumene, methyl isobutyl ketone, methylene chloride, m,p-xylene, o-xylene, phenol, propionaldehyde, styrene, and toluene.

<sup>59</sup> Pellet cooler emission factors are from the Hazlehurst 2015 testing (methanol, formaldehyde) and the 2014 testing (acetaldehyde); pre-dryer baghouse emission factors are from 2017 Hazlehurst testing (acetaldehyde, methanol, formaldehyde) and the 2015 Hazlehurst testing (HCL).

<sup>60</sup> 40 CFR 70.5(a)(2).

<sup>61</sup> 40 CFR 70.7(a)(5).

EPA must direct HPS and ADEQ to evaluate the emissions of all significant HAPs, including at a bare minimum the HAPs listed in the AP-42 emission factor database for wood fired boilers and for wood dryers, using technically sound emission factors from the available testing and other reliable sources, and supported by reasonable evidence of their accuracy. We believe, when these HAP emissions are properly calculated, it will be clear that the facility is a major source subject to case-by-case MACT under Clean Air Act §112(g). At a minimum, MACT for the wood pellet industry must include HAP controls such as a regenerative thermal oxidizer on the facility's pellet coolers—such controls are common across the industry.

**iii. The Draft Permit Lacks Monitoring Sufficient to Demonstrate Compliance with the Aggregate HAP Limits, and the Limits are Unenforceable as a Practical Matter.**

Given the substantial errors in HPS' and ADEQ' calculation of potential HAP emissions from this facility, and their failure to account for all HAPs likely to be emitted, there is no reasonable basis on which to conclude that HPS will be capable of operating in compliance with the unit-specific total HAP limits. Unfortunately, the draft permit also omits monitoring and testing requirements sufficient to demonstrate the facility's violation of the total HAP limits. As a result, the total HAP limits are unenforceable and cannot serve to enable HPS to avoid major source MACT applicability.

While the draft permit declares that compliance with the HAP emission limits is to be assured by plantwide conditions 7-12, the only plantwide conditions that could be relevant to demonstrating compliance with the unit-specific Total HAP limits are the conditions pertaining to the annual production limit of 750,000 metric tons (826,733 short tons) (Plantwide Conditions 7 and 8). While Petitioners agree that a PTE limit must consist of both an emissions limit and an operational or production limit, *see supra*, Part II.A.1.v, neither the wood pellet production limit nor the unit-specific emission limits are sufficient to ensure that facility-wide individual and aggregate HAP emissions remain below the major source MACT threshold.

First, contrary to the draft permit's language, ADEQ has not demonstrated that the facility's compliance with a facility-wide pellet production limit can assure compliance with a unit-specific HAP limit. Regardless of whether the facility is operating within its annual production limit, it could be violating its short and long-term unit-specific HAP limits. The high likelihood that total HAP emissions at specific units will exceed the applicable limits makes ADEQ's omission of adequate testing and monitoring especially consequential. For example, there is no monitoring assuring compliance with the HAP limits for the pellet coolers of 0.41 tpy (or 1.64 tpy for all four pellet coolers), despite the fact that testing at Hazlehurst has demonstrated that individual HAPs either already exceed that limit (methanol at 4.13 tpy) or greatly contribute to an almost certain exceedance (acetaldehyde at 1.18 tpy). Without testing for at least the most significant HAPs, there is no way ADEQ, the public, or even the facility can ever determine whether HPS is in compliance the unit-specific total HAP limits. Given the permit's lack of any monitoring to verify compliance with the unit-specific emission limits, these limits cannot serve to enable the facility to avoid major source MACT compliance. Likewise, the permit violates Title V's requirement that the permit include monitoring, recordkeeping, and reporting sufficient to assure compliance with each permit condition.

Second, the draft permit's wood pellet production limit itself is not an enforceable limit sufficient to avoid major source MACT. As demonstrated above, HAP emissions almost certainly exceed the major source MACT threshold while producing 826,733 short tons per year. The facility therefore could easily comply with the production limit while still exceeding the major source threshold, meaning the production limit is not a practically enforceable limit sufficient to avoid MACT.

In light of the substantial errors and omissions in HPS' calculation of the facility's HAP emissions, the unenforceability of the unit-specific emission limits, and the technical inaccuracy of the wood pellet production limit (which would allow HAP emissions in excess of the major source MACT applicability threshold), the draft permit's conditions are inadequate to qualify HPS as "synthetic minor" for Clean Air Act section 112. Because the draft permit does not assure the facility's compliance with section 112 requirements, the permit is deficient and EPA must object.

EPA should instruct ADEQ either to require the source to comply with case-by-case MACT requirements, or to establish accurate and enforceable limits on the facility's individual and total HAP such that they cannot exceed the major source MACT applicability threshold. Such limits must be calculated based on the facility's maximum potential HAP emissions along with a margin of safety. In addition, EPA should instruct ADEQ to add permit conditions requiring (1) initial and periodic testing for the most significant HAPs emitted in the wood pellet manufacturing process: formaldehyde, methanol, acetaldehyde, acrolein, phenol, propionaldehyde, and hydrochloric acid—these HAPs are frequently required to be tested for in permits for other wood pellet mills,<sup>62</sup> (2) given the size of this plant, initial testing for benzene, cumene, toluene, and xylene—pollutants which at least one other permitting agency has identified as potentially significant contributors to aggregate HAP totals,<sup>63</sup> (3) ongoing monitoring designed to enable the facility to calculate actual individual and total HAP emissions and periodic calculation of individual and total HAP emissions based on that monitoring (such permit conditions must specify the equation to be used in making the calculations, specify appropriate emission factors to be used in the calculation, and require periodic testing to verify the accuracy of the selected emission factors on an ongoing basis).

### **C. The Draft Permit's Stack Testing Requirements Do Not Constitute Adequate Monitoring, Recordkeeping, and Reporting Conditions Sufficient to Assure Compliance with Applicable Requirements.<sup>64</sup>**

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<sup>62</sup> See, e.g. North Carolina DEQ Air Quality Permit No. 10365R03 for Enviva Pellets Hamlet (Jan. 14, 2019), at 8. (Attachment CC). (Requiring testing for acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde from dryers, hammermills, pellet presses, pellet coolers, and dry wood handling operations); see also South Carolina DHEC Bureau of Air Quality Construction Permit No. 1240-0133-CB for Colombo Energy (Jan. 12, 2018), at 8. (Attachment DD). (Requiring testing for methanol, formaldehyde, acetaldehyde, and HCL from the green hammermills, dryers, dry hammermills, pellet presses, and pellet coolers.)

<sup>63</sup> Letter from Todd Alonzo, Manager, Virginia DEQ Office of Air Compliance Coordination, to Joe Harrell, Manager, Corporate Environmental Health and Safety, Enviva Pellets Southampton, (June 12, 2018). (Attachment EE). (requiring testing for acetaldehyde, acrolein, benzene, cumene, formaldehyde, hydrogen chloride, methanol, methyl isobutyl ketone, phenol, propionaldehyde, toluene, and xylene).

<sup>64</sup> See Petitioners' Comments at 13-17.

The draft permit largely relies on stack testing to assure compliance with the permit's emissions limits and with PSD avoidance, yet those stack test requirements are both insufficient and deficient. The draft permit only requires testing for PM, CO, NO<sub>x</sub>, and VOCs from the pre-dryer baghouses, and only for PM from the pellet coolers; the permit does not require any testing for HAPs from any unit, nor for VOCs from the pellet coolers. Additionally, the draft permit fails to require that the tests occur in a manner that represents maximum emissions.

### **1. The Lack of Pellet Cooler Testing Means the Draft Permit Does Not Comply with Title V's Periodic Monitoring, Recordkeeping, and Reporting Requirements.**

The only monitoring requirements in the permit that attempt to assure compliance with VOC limits on the pellet coolers is the requirement to monitor the facility's pellet production rate, which is not sufficient to constitute periodic monitoring of compliance with emissions limits for those units. As discussed above, the facility could easily comply with the production limit while simultaneously exceeding the permit's VOC limits and the major source PSD threshold.

Title V permits 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."<sup>65</sup> Where a facility does not utilize continuous emissions monitoring, Title V permits must include monitoring requirements "that provide sufficiently reliable and timely information for determining compliance."<sup>66</sup>

A monitoring requirement that allows a facility to exceed emissions limits indefinitely is plainly not periodic monitoring sufficient to demonstrate compliance with the applicable emission limits. As explained above, the production limit is far too high to ensure the pellet coolers emit VOCs at rates less than the permit's limits of 33.7 tpy and 11.5 lb/hr. The recent tests at Hazlehurst show that annual VOC emissions for each pellet cooler operated at the permitted wood pellet production rate will be 63.75 tpy and hourly emissions at 14.55 lb/hr, both exceeding the relevant limits. Therefore, merely monitoring the production rate clearly will not demonstrate that VOC emissions are within permitted limits, nor that the facility as a whole is in compliance with PSD avoidance. Simply put, under the terms of the draft permit, ADEQ, the public, EPA, and even HPS will have no idea whether the facility is in compliance with the VOC limits.

ADEQ must implement both initial and periodic stack testing requirements for the pellet coolers (and, as explained below, the periodic stack tests must be more frequent than once-per-permit-term). Finally, we see no reason why ADEQ has chosen to require VOC testing for the pre-dryer outlets but has exempted the pellet coolers—even by HPS' flawed accounting, the pellet coolers are the largest source of VOCs at the facility.

### **2. ADEQ Should Require At Least Initial Compliance Testing of Additional Units.**

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<sup>65</sup> 40 CFR 70.6(3)(i)(B).

<sup>66</sup> 42 USC § 7661c(b).

As discussed above, HPS and ADEQ apparently believe that green hammermills and the pellet storage silos do not emit any VOCs whatsoever. The tests we cite to herein show that this is incorrect, and these units are almost certainly significant sources of VOC emissions. The permit should require the same initial and periodic testing requirements for these units as it does for the other significant sources. At a minimum, the draft permit is deficient because it lacks even an initial VOC emissions test for these units to either confirm that they are not significant sources of VOCs or to establish emission factors to be used to calculate these units' contribution to facility-wide VOC emissions.

### **3. The Permit Must Require HPS to Conduct Stack Tests at the Maximum Allowable Softwood Percentage.**

The draft permit contains relatively strong provisions requiring that HPS conduct stack tests at the maximum operating capacity, and if the facility fails to do so, then the permit essentially restricts the facility to the rates operated during those tests.<sup>67</sup> While those conditions are one necessary aspect to ensure the tests represent maximum possible emissions, alone they are not sufficient without conditions addressing softwood and hardwood.

As explained above, drying and processing softwood emits substantially higher levels of VOC emissions than hardwood.<sup>68</sup> In fact, one plausible explanation for the variable stack test rates at Hazlehurst is that the facility conducted the first test while processing a high hardwood content but conducted later tests with more softwood. Nothing we've seen in the test records indicate what level of softwood was processed during the tests, but we note that there is evidence Hazlehurst processes significant amounts of hardwood.<sup>69</sup>

To ensure that the stack tests represent maximum VOC emissions, and therefore that the permit's monitoring requirements assure compliance with applicable VOC limits, the permit must include conditions comparable to the production rate conditions—that is, HPS must conduct stack tests at the maximum allowable softwood rate, which is 100%, or be limited to lower levels of softwood until the facility demonstrates compliance at higher rates. Without such conditions, the permit fails to assure compliance with VOC limits and PSD avoidance—HPS could easily test at 50% softwood while ordinarily operating at substantially higher levels, thereby rendering the testing toothless to demonstrate that HPS' ordinary operations comply with the terms of the permit. EPA must therefore object due to the fact that the permit's monitoring conditions fail to assure compliance with applicable requirements.

### **4. For All Pollutants, the Draft Permit Fails to Include Stack Testing Requirements that Qualify as Periodic Monitoring.**

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<sup>67</sup> Draft Permit Specific Conditions 26 and 30.

<sup>68</sup> *Supra*, note 9.

<sup>69</sup> Sustainable Biomass Partnership, Fram Renewable Fuels LLC Supply Base Report, Appling County Pellets, Hazlehurst Wood Pellets, Telfair Forest Products (June 2016) at 4. (Attachment FF). (“FRAM Renewable Fuels L.L.C. [owner of Hazlehurst Wood Pellets] utilizes both hardwood and softwood forest and mill residuals.”); *see also, id.* at 17 (“I understand that Fram Fuels is primarily operating off of mill residues from a couple large Georgia hardwood mills . . . [w]e have seen increasing amounts of our South Carolina hardwood resource going to Georgia mills and likely to Fram Renewable Fuels, ultimately.”).

For the units and pollutants that are subject to testing requirements, after the initial compliance testing, the draft permit only requires testing once every 60 months, which equates to one test per five-year permit term.<sup>70</sup> These testing requirements, coupled with a requirement to monitor the bark burners' combustion chamber temperature,<sup>71</sup> are essentially the only periodic monitoring requirements in the permit designed to assure compliance with permit limits for VOC emissions and PSD avoidance. Because of this significant reliance on stack testing, the draft permit's once-per-permit term testing requirement is far too infrequent to satisfy Title V's periodic monitoring requirements, and in fact EPA has objected to Title V permits explicitly on the grounds that a "once per permit term stack test does not satisfy the requirement . . . that each permit contain periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit."<sup>72</sup>

Although the testing requirement is coupled with parametric monitoring for VOC compliance assurance (i.e. the requirement to monitor the bark burner combustion temperatures), monitoring the bark burner temperature is insufficient to assure compliance between stack tests. This is demonstrated by the fact that the Highland Pellets Pine Bluff mill conducted VOC tests at temperatures substantially higher than the minimum bark burner temperature required HPS' draft permit, and yet those tests still produced an emission factor that would exceed both the permit limits and the PSD threshold at HPS. The draft permit requires HPS to maintain a minimum combustion temperature of 1,500 degrees in the bark burners, however the September 2017 Highland Pellets Pine Bluff testing occurred while operating the combustion chambers at an average temperature of 1,845 degrees.<sup>73</sup> During that test, the pre-dryer baghouses emitted VOCs at the rate of 0.38 lb/ODT, which amounts to 39 tons per year from each line (exceeding HPS' permit limit of 27.6 tpy and as well as the facility-wide PSD threshold of 250 tons per year). Thus it is clear that even if HPS demonstrates compliance during the initial stack test, merely requiring that the facility monitor combustion temperature for the next five years has little bearing on whether the plant continuously complies with the permit limits and PSD avoidance.

The need for more frequent testing is heightened by the substantial variability in emissions from wood pellet plants, as demonstrated in the testing described above. For example, compare the pellet cooler tests at Hazlehurst from 2014 to those conducted in 2015; the former reported an emission factor of 0.31 lb/ODT (or 126 tpy at HPS), while the later reported a rate twice as high, at 0.62 lb/ODT (or 255 tpy at HPS). The two dryer tests conducted at the Highland Pellets Pine Bluff mill also show considerable variability: 102 tpy versus 156 tpy in tests conducted just a month apart.

The demonstrated variability in wood pellet plant emissions necessitates at least annual emissions testing to demonstrate HPS' compliance with the annual emission limits and PSD avoidance. We note that a recently issued permit for a somewhat smaller wood pellet mill contains just such a condition, requiring testing on all of the major units at least once per year.<sup>74</sup>

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<sup>70</sup> Draft Permit Special Conditions 26 and 30.

<sup>71</sup> Draft Permit Special Condition 24.

<sup>72</sup> *In re Consolidated Edison Co. of NY, Inc., Ravenswood Steam Plant*, Order on Petition No. II-2001-08 (E.P.A. Sept. 30, 2003), at 12.

<sup>73</sup> Source Test Report for Highland Pellets, Test Dates Sep. 5-6, 2017, at 81.

<sup>74</sup> *Supra*, note 53, Condition (2.2)(A)(2)(d)(iv)(C).

Without more frequent testing, the facility could exceed relevant limits, the major source PSD threshold, or the major source MACT threshold for years before testing happened to reveal the violation. Such infrequent testing, and the possibility of years-long violations, plainly does not constitute periodic monitoring sufficient to assure compliance—this is especially true of limits expressed in terms of pounds per hour.

**D. The Statement of Basis Does Not Provide Sufficient Information Concerning the Draft Permit’s Selected Monitoring, Recordkeeping, and Reporting Conditions.<sup>75</sup>**

To comply with 40 C.F.R. § 70.7(a)(5), which requires an adequate statement of basis accompany Title V permits, a permitting authority must ensure that the rationale for selected monitoring is “clear and documented in the permit record.”<sup>76</sup> ADEQ’s statement of basis for the draft permit fails to provide any explanation whatsoever for exempting the pellet coolers from VOC testing, for requiring only once-per-permit-term testing requirements, and for failing to test for HAPs.

Additionally, even if ADEQ could somehow justify the lack of testing, which it has not done, ADEQ must still provide support for the selected production rate monitoring, which it has likewise failed to do. In light of the fact that the more recent tests at Hazlehurst demonstrate the production limit alone will not restrict VOC emissions to below the permit limits nor the PSD threshold, ADEQ has failed to explain how monitoring production alone will equate to assuring compliance. These flaws pertaining to the statement of basis render the draft permit itself deficient, and EPA has frequently objected to Title V permits where permitting authorities have failed to explain the selected monitoring provisions.<sup>77</sup> For these reasons, EPA must again object to the permit.

**E. In Addition to the Stack Testing Deficiencies, the Draft Permit Suffers from Numerous Other Issues Related to Periodic Monitoring, Recordkeeping, and Reporting Conditions.<sup>78</sup>**

Other than the initial and once-per-permit-term stack testing requirements, the permit lacks for monitoring provisions to assure that the facility complies with the permit’s criteria pollutant emission limits. The only additional monitoring conditions in the permit require HPS to monitor the facility’s production rates monthly, to monitor the wood burners’ combustion temperature continuously, and to conduct daily observations of the opacity. While it may be that additional monitoring is contained in an off-permit compliance assurance monitoring (CAM) plan, that appears unlikely, and even if that is the case, such off-permit monitoring contravenes Title V’s periodic monitoring requirements, which require that the permit itself contain adequate periodic monitoring to assure compliance with applicable requirements.

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<sup>75</sup> See Petitioners’ Comments at 17.

<sup>76</sup> *In re United States Steel Corporation—Granite City Works*, Order on Petition V-2009-03 (E.P.A., Jan. 11, 2011), at 7.

<sup>77</sup> *Id.*; see also *In the Matter of Consol. Env’tl. Mgmt.*, Order on Petition Numbers VI-2010-05, VI-2011-06, and VI-2012-07 (E.P.A., Jan. 30, 2014) (objecting to a Title V permit and instructing Louisiana DEQ to “explain how the monitoring requirements in the permit are sufficient to assure compliance with the numeric [ ] emission limit.”

<sup>78</sup> See Petitioners’ Comments at 17-18.

At a minimum, EPA must object and require ADEQ to supplement the monitoring, recordkeeping, and reporting requirements to assure compliance with the following limits and parameters:

- **PM Emission Limits on the Baghouses.** Other than the daily opacity readings, nothing in the permit ensures that the facility is complying with limits on particulate matter emissions in between stack tests. While opacity may have some correlation to compliance with the various PM limits, ADEQ has failed to connect compliance with opacity limits with assuring compliance with numerical PM limits. Most concerning, there is nothing in the permit requiring that HPS assure the baghouses are properly achieving the required PM capture rates. The permit should be amended to require that HPS monitor the pressure drop of the baghouses, a key parameter for assuring adequate operation of the control device,<sup>79</sup> during the initial compliance tests and thereafter to assure compliance with the emission limits.
- **Heat Input of the Bark Burners.** As discussed above, we believe that ADEQ intended to implement an annual limit on the heat input of the bark burners to assure compliance with NOx emission limits. Even if that is not the case, the draft permit should require HPS to monitor and record the heat input of the bark burner, as the heat input is a key component of calculating emissions of pollutants which are products of combustion—NOx and CO. Heat input monitoring is needed because the heat input is largely independent of the pellet production rate (since the facility can run the burners at any given heat input rate independent of how many pellets the plant is producing), and therefore simply monitoring the pellet production rate will inadequate information for NOx and CO emissions.
- **Monthly and 12-Month Rolling Emissions for PSD and MACT Avoidance.** Nothing in the draft permit requires HPS to monitor its actual emissions to assure compliance with avoiding PSD and major source MACT. ADEQ apparently assumes that as long as HPS monitors its production rate, that should be sufficient. As discussed above, this is plainly not correct. The lack of any monitoring sufficient to assure that the facility's emissions remain below its PSD and MACT avoidance emission limits makes the draft permit deficient and requires EPA's objection. EPA should instruct ADEQ either to require continuous emissions monitoring (which would be the most accurate monitoring approach) or, at a minimum, include in the permit an equation that sums the unit-by-unit and facility-wide emissions for each month based on production rates (or, where appropriate, heat input rates) multiplied by technically sound emission factors. For such monitoring to be enforceable, those emission factors must be in the permit, and must be revisable only by a significant permit modification.<sup>80</sup> Further, those emission factors should be based on highest rates that HPS is capable of emitting until HPS can demonstrate that it is no longer capable of emitting that pollutant at that rate. If any of

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<sup>79</sup> EPA, Monitoring by Control Technique – Fabric Filters, *available at*: <https://www.epa.gov/air-emissions-monitoring-knowledge-base/monitoring-control-technique-fabric-filters>.

<sup>80</sup> *In re Piedmont Green Power, LLC*, Order on Petition No. IV-2015-2 (Dec. 13, 2016), at 15, *available at*: [https://www.epa.gov/sites/production/files/2016-12/documents/piedmont\\_response2015.pdf](https://www.epa.gov/sites/production/files/2016-12/documents/piedmont_response2015.pdf).

facility's own tests are lower than rates obtained by testing at Hazlehurst or Highland Pellets, ADEQ must not reduce the emission factor unless, again, HPS can demonstrate that it is somehow uniquely incapable of emitting at the same rates as its sister facilities.

**F. 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.<sup>81</sup>**

The draft Title V operating permit for HPS also lacks sufficient detail to assure compliance with HPS' 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 HPS' Title V permit.<sup>82</sup> The extremely hazardous substance at issue for HPS is combustible wood dust, which carries an extreme risk of fires and explosions. Indeed, the risk of explosions and fires caused by combustible dust at wood pellet plants is well-documented in the wood pellet industry.<sup>83</sup> Since 2010, more than half of the 15 largest wood pellet mills in the nation have had newsworthy fires or explosions.<sup>84</sup> A fire at a wood pellet facility in Port Arthur, Texas burned for

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<sup>81</sup> Petitioners' Comments at 19.

<sup>82</sup> 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.").

<sup>83</sup> *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 industry as well as in other woodworking industries with devastating consequences in many cases.") (Attachment GG); 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 HH); *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 II); Baghouse.com, "Dust Collector Fire and Explosion Highlights Need for Combustible Dust Consideration in System Designs (available at [www.docuarchive.com/.../Dust-Collector-Fire-and-Explosion-Highlights-Need.pdf](http://www.docuarchive.com/.../Dust-Collector-Fire-and-Explosion-Highlights-Need.pdf)) (Attachment JJ); 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 KK); 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 LL); 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 MM); 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 NN).

<sup>84</sup> "2 Burn Victims Remain Hospitalized after Hazlehurst Flash Fire," WALB (June 4, 2015), <http://www.walb.com/story/28983516/4-seriously-burned-after-fire-at-hazlehurst-wood-pellets> (Attachment OO); Stepzinski, Teresa, "Explosion Damages Waycross Plant; No Injuries Reported," jacksonville.com (June 21, 2011), <http://www.jacksonville.com/news/crime/2011-06-21/story/explosion-damages-waycross-plant-no-injuries-reported> (Attachment PP); "Fire Reported at Highland Pellets Plant," *The Pine Bluff Commercial* (Aug. 16, 2017),

more than 50 days in 2017, leading to dozens of nearby residents to seek medical attention.<sup>85</sup> In another incident, especially relevant given the similar design involved, a “flash fire” at the Hazlehurst pellet mill in Hazlehurst, Georgia—the facility’s second fire since commencing operations in 2013—seriously injured four employees.<sup>86</sup> A wood dust explosion at another Georgia pellet mill “rattled windows in homes about five miles away.”<sup>87</sup> While it is fortunate that there have been no fatalities from wood dust explosions in at pellet mills in the US, a wood dust explosion at a Canadian mill in 2012 killed an employee.<sup>88</sup>

Due to the significant risk posed by combustible dust at the HPS 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.<sup>89</sup> The permit also must include monitoring, recordkeeping, and reporting to assure the facility’s compliance with these requirements.

Wood dust at HPS easily qualifies as an “extremely hazardous substance” that is subject to the General Duty Clause. According to Clean Air Action section 112(r)(1), the General Duty Clause applies to “owners and operators of stationary sources producing, processing, handling or storing any extremely hazardous substances.” The legislative history of this provision indicates that an accidental release is one which causes or may cause immediate (or near term) death, serious injury or substantial property damage as the result of exposure to an extremely hazardous

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<http://www.pbcommercial.com/news/20170816/fire-reported-at-highland-pellets-plant> (Attachment QQ); “Enviva’s Cottondale Facility Damaged by Fire,” *mypanhandle.com*, (June 11, 2017), <http://www.mypanhandle.com/news/envivas-cottondale-facility-damaged-by-fire/737627383> (Attachment RR); Voegelé, Erin. “Fire at Enviva Facility Not Expected to Result in Major Downtime.” *Biomass Magazine* (Jan. 9, 2014), <http://biomassmagazine.com/articles/9882/fire-at-enviva-facility-not-expected-to-result-in-major-downtime> (Attachment SS); Bryant, Cal. “Enviva Fire Quickly Contained.” *Roanoke-Chowan News-Herald* (Jan. 24, 2013), <http://www.roanoke-chowannewsheald.com/2013/01/24/enviva-fire-quickly-contained/> (Attachment TT); Taylor, Stephanie. “Aliceville Plant Closed After Explosion.” *Tuscaloosa News* (Oct. 24, 2016), <http://www.tuscaloosaneews.com/news/20161024/aliceville-plant-closed-after-explosion> (Attachment UU); German Pellet Plant in Woodville has Fire in Silo.” *Beaumont Enterprise* (Apr. 30, 2014), <http://www.beaumontenterprise.com/jasper/news/article/German-pellet-Plant-in-Woodville-has-fire-in-Silo-5442052.php> (Attachment VV); Waldrep, Emily. “Firefighters Respond to Second Fire at Woodville German Pellet Plant.” *Tyler County Booster* (May 07, 2015), <https://www.tylercountybooster.com/index.php/news/1848-firefighters-respond-to-second-fire-at-woodville-german-pellet-plant> (Attachment WW); Langford, Cameron. “Residents Go to Court Over Months-Long Texas Plant Fire.” *Courthouse News* (Oct. 27, 2017), <https://www.courthousenews.com/residents-go-court-months-long-texas-plant-fire/>. (Attachment XX).

<sup>85</sup> *Id.*

<sup>86</sup> “2 Burn Victims Remain Hospitalized after Hazlehurst Flash Fire,” WALB, (June 4, 2015), (available at <http://www.walb.com/story/28983516/4-seriously-burned-after-fire-at-hazlehurst-wood-pellets>) (Attachment OO).

<sup>87</sup> Stepzinski, Teresa, “Explosion Damages Waycross Plant; No Injuries Reported,” *jacksonville.com* (June 21, 2011) (available at <http://www.jacksonville.com/news/crime/2011-06-21/story/explosion-damages-waycross-plant-no-injuries-reported>) (Attachment PP).

<sup>88</sup> “Fatal Sawdust Blast in B.C. Comes After Five Explosions at Similar Plants Since 2009,” *National Post* (Apr. 28, 2012) (available at <http://nationalpost.com/news/canada/fatal-sawdust-blast-in-b-c-comes-after-five-explions-at-similar-plants-since-2009>) (Attachment YY).

<sup>89</sup> See 40 C.F.R. § 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 C.F.R. §§ 70.6(a)(3) and (c)(1).

substance over limited periods of time.<sup>90</sup> Although the Clean Air Act does 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.”<sup>91</sup> 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.”<sup>92</sup> 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.

Aside from failing to clearly state HPS’ 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 clarify what the source’s obligations are and incorporate any conditions needed to assure the source’s compliance with those obligations.<sup>93</sup>

To assure HPS’ compliance with the General Duty Clause, the permit must incorporate, at a minimum, provisions that:

- (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.

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<sup>90</sup> Senate Committee on Environment and Public Works, Clean Air Act Amendments of 1989, Senate Report No. 228, 101<sup>st</sup> Congress, 1<sup>st</sup> Session 211 (1989) (“Senate Report”), at 210-211.

<sup>91</sup> Senate Report at 211.

<sup>92</sup> *Id.*

<sup>93</sup> 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>.

Without these provisions, the permit is deficient and EPA must object.

### **Conclusion**

For the foregoing reasons, and as explained in Petitioners' timely-filed public comments, the draft permit is deficient and EPA must object on substantive grounds. Additionally, ADEQ's failure to withdraw the draft permit from EPA review while it considers Petitioners' public comments and any necessary revisions violates the Clean Air Act, therefore EPA is also obligated to object on procedural grounds.

Respectfully submitted,

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Our Children's Earth.*

Attachments: Comment Attachments A through YY.

## Appendix A: Stack Test Citations

Test	Unit	Citation(s)	Attachment(s)
Hazlehurst 2014	Multiple	ATI, Compliance Test Report for Hazlehurst Wood Pellets (Oct. 2, 2014); Georgia EPD, Source Test Report Review for Hazlehurst Wood Pellets August 28, 2014 Tests (Dec. 12, 2014).	H and I
Hazlehurst 2015	Multiple	ATI, Compliance Test Report for Hazlehurst Wood Pellets (undated, tests conducted Dec. 16-17, 2015); Hazlehurst Wood Pellets, Test Report Transmission Summary (Feb. 10, 2016); Georgia EPD, Source Test Report Review for Hazlehurst Wood Pellets December 16, 2015 Tests (Mar. 03, 2016).	J, K, L
Hazlehurst 2017	Multiple	ATI, Compliance Test Report for Hazlehurst Wood Pellets (Mar. 24, 2017); Georgia EPD, Source Test Report Review for Hazlehurst Wood Pellets January 31, 2017 Tests (undated).	M and N
Highland Pellets September 2017	Pre-dryer outlet	Alliance Source Testing, Source Test Report, Highland Pellets, LLC (Test Dates: Sep. 5-6, 2017).	O
Highland Pellets October 2017	Pre-dryer outlet	Alliance Source Testing, Source Test Report, Highland Pellets, LLC (Test Date: Oct. 26, 2017).	P
Enviva Amory	Pellet Cooler	Air Control Techniques, P.C., Air Emission Test Report, Amory, Mississippi Wood Pellet Production Facility, Enviva Pellets Amory, LLC (Oct. 31, 2013, revised Nov. 14, 2013), at 7. (“Aspiration” refers to the pellet cooler aspiration system).	Q
German Pellets	Pellet Cooler	German Pellets, Permit Amendment Application (Sep. 2016), Table 1(a). Note: German Pellets has not released stack test data under claim of confidentiality, we calculate an emission factor based on the reported 446 tpy of VOCs divided by the facility’s production capacity of 578,000 tpy.	R
Green Circle (now Enviva Cottondale)	Pellet Cooler	Florida DEP, Technical Evaluation and Preliminary Determination for Project No. 0830058-014-AC (Aug 6, 2013), at 5.	S
Georgia Biomass	Pellet Cooler	Memorandum from Manny Patel, Georgia EPD, to Eric Cornwell, Georgia EPD, entitled “Emission Factors for Wood Pellet Manufacturing” (Jan. 29, 2013)	T
Colombo Energy (now Enviva Greenwood)	Pellet Cooler	Air Control Techniques, Air Emission Test Report for Colombo Energy (Dec. 4, 2017)	U
Enviva Wiggins	Pellet Cooler	Air Control Techniques, P.C., Air Emission Test Report, Wiggins, Mississippi Wood Pellet Production Facility, Enviva Pellets Wiggins, LLC (Oct. 31, 2013, revised Nov. 14, 2013), at 9.	V

Enviva Sampson	Pellet Cooler	Memorandum from Shannon Vogel, NC Division of Air Quality, to Greg Reeves, North Carolina DEQ, re: Enviva Pellets Sampson. Note: we calculate the 0.50 lb/ODT emission factor using VOC as propane.	W
Enviva Amory	Green Hammermill	<i>See above.</i>	Q
Enviva Sampson	Green Hammermill	<i>See above.</i>	W
Enviva Wiggins	Green Hammermill	<i>See above.</i>	V
Georgia Biomass	Pellet Storage	<i>See above.</i>	T

**Attachments to Petition to Object to Draft Operating Air Permit for Highland Pellets  
South, LLC, Permit No. 2389-AOP-R0.**

- Attachment A: Email from Amanda Leamons, ADEQ, to Patrick Anderson, Environmental Integrity Project, (Jan. 10, 2019).
- Attachment B: Environmental Integrity Project, et al., Written Comments on Draft Permit Submitted to ADEQ, January 30, 2019
- Attachment C: Emails between Patrick Anderson, EIP, and Amanda Leamons, permit engineer, ADEQ (Feb. 26 to Mar. 19, 2019).
- Attachment D: Screenshot of EPA Region VI Operating Permit Timeline for Arkansas.
- Attachment E: *Sierra Club v. Whitman*, Slip Op. at 16-17, No. 01-01991-ESH (D.D.C. Jan 30, 2002).
- Attachment F: E-mail from Taylor Deems, Environmental Engineer, ECCI, to Paula Parker, ADEQ (Sept. 21, 2017).
- Attachment G: Letter from Taylor Deems, Environmental Engineer, ECCI, to Stuart Spencer, ADEQ, re: Title V Initial Permit Application (Aug. 17, 2017).
- Attachments H-W: Stack test information, *see* Appendix A.
- Attachment X: Ramboll, Permit Modification Application for PSD Minor Source Status, Enviva Pellets Northampton (Sep. 28, 2018).
- Attachment Y: Ramboll, Application for Modification of Stationary Source Permit for Increased Softwood Utilization and Installation Emission Controls, Enviva Pellets Southampton (Sep. 28, 2018).
- Attachment Z: Biomass Magazine, “Enviva Acquires Pellet Plants, Expands Production” (Oct. 13, 2010).
- Attachment AA: Hazlehurst Wood Pellets, PSD Minor Source Air Permit Application (Feb. 2013) (Excerpt).
- Attachment BB: Georgia EPD, Part 70 Operating Permit No. 2421-025-0001-V-04-0 for Varn Wood Products (Aug. 2, 2018).
- Attachment CC: North Carolina DEQ Air Quality Permit No. 10365R03 for Enviva Pellets Hamlet (Jan. 14, 2019).
- Attachment DD: South Carolina DHEC Bureau of Air Quality Construction Permit No. 1240-0133-CB for Colombo Energy (Jan. 12, 2018).

- Attachment EE: Letter from Todd Alonzo, Manager, Virginia DEQ Office of Air Compliance Coordination, to Joe Harrell, Manager, Corporate Environmental Health and Safety, Enviva Pellets Southampton, (June 12, 2018).
- Attachment FF: Sustainable Biomass Partnership, Fram Renewable Fuels LLC Supply Base Report, Appling County Pellets, Hazlehurst Wood Pellets, Telfair Forest Products (June 2016).
- Attachment GG: Melin, Staffan, Wood Pellet Association of Canada, Determination of Explosibility of Dust Layers in Pellet Manufacturing Plants (Aug. 30, 2012).
- Attachment HH: Biomass Handling, *Biomass Dust Fire and Explosion Control* (Apr. 24, 2013).
- Attachment II: *The Florida Times-Union*, Jacksonville.com, “Overheated Assembly Caused Georgia Biomass Explosion,” (July 13, 2011).
- Attachment JJ: Baghouse.com, “Dust Collector Fire and Explosion Highlights Need for Combustible Dust Consideration in System Designs,” available at [www.docuarchive.com/.../Dust-Collector-Fire-and-Explosion-Highlights-Need.pdf](http://www.docuarchive.com/.../Dust-Collector-Fire-and-Explosion-Highlights-Need.pdf).
- Attachment KK: Simet, Anna, *Biomass Magazine*, “Dusting Up on Risk & Regulation” (Jan. 26, 2016).
- Attachment LL: Harrington Group, “Fire Prevention Tips for Wood Pellet Plants,” available at <http://hgi-fire.com/blog/fire-prevention-tips-for-wood-pellet-plants/>.
- Attachment MM: NBC 10 News, “Fire Chief: Dust Caused Pellet Company Explosion,” (Aug. 20, 2013).
- Attachment NN: Griffin, Jeff, Fauske & Associates, LLC, “Managing Combustible Dust & Safety Concerns in Biomass/Wood Pellet Industry (Nov. 1, 2013).
- Attachment OO: “2 Burn Victims Remain Hospitalized after Hazlehurst Flash Fire,” WALB (June 4, 2015).
- Attachment PP: Stepzinski, Teresa, “Explosion Damages Waycross Plant; No Injuries Reported,” jacksonville.com (June 21, 2011).
- Attachment QQ: “Fire Reported at Highland Pellets Plant,” *The Pine Bluff Commercial* (Aug. 16, 2017).
- Attachment RR: “Enviva’s Cottondale Facility Damaged by Fire,” *mypanhandle.com*, (June 11, 2017).

- Attachment SS: Voegele, Erin. "Fire at Enviva Facility Not Expected to Result in Major Downtime." *Biomass Magazine* (Jan. 9, 2014).
- Attachment TT: Bryant, Cal. "Enviva Fire Quickly Contained." *Roanoke-Chowan News-Herald* (Jan. 24, 2013).
- Attachment UU: Taylor, Stephanie. "Aliceville Plant Closed After Explosion." *Tuscaloosa News* (Oct. 24, 2016).
- Attachment VV: "German Pellet Plant in Woodville has Fire in Silo." *Beaumont Enterprise* (Apr. 30, 2014).
- Attachment WW: Waldrep, Emily. "Firefighters Respond to Second Fire at Woodville German Pellet Plant." *Tyler County Booster* (May 07, 2015).
- Attachment XX: Langford, Cameron. "Residents Go to Court Over Months-Long Texas Plant Fire." *Courthouse News* (Oct. 27, 2017).
- Attachment YY: "Fatal Sawdust Blast in B.C. Comes After Five Explosions at Similar Plants Since 2009," *National Post* (Apr. 28, 2012).