BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of the Proposed Title V Renewal Permit for: Duke Energy Carolinas, LLC's Cliffside Steam Station in Rutherford County, North Carolina. Proposed by the North Carolina Department of Environment and Natural Resources, Division of Air Quality	**Permit Number: 04044T29** **Petition to Object to Title V Renewal Permit for Cliffside Steam Station Proposed by the North Carolina Department of Environment and Natural Resources, Division of Air Quality**

Pursuant to § 505(b)(2) of the Clean Air Act, 42 U.S.C. § 7661d(b)(2), and 40 C.F.R. § 70.8(d), Appalachian Voices, the Canary Coalition, the Cape Fear Coastkeeper, the Cape Fear Riverkeeper, the Cape Hatteras Coastkeeper, the Cape Lookout Coastkeeper, Carolinas Clean Air Coalition, Catawba Riverkeeper Foundation, Clean Water for North Carolina, Environmental Defense Fund, the French Broad Riverkeeper, the Haw Riverkeeper, the Lower Neuse Riverkeeper, National Parks Conservation Association, Natural Resources Defense Council, the Neuse Riverkeeper Foundation, North Carolina Coastal Federation, North Carolina Conservation Network, North Carolina Interfaith Power & Light[1], N.C. Waste Awareness and Reduction Network, the Pamlico-Tar Riverkeeper, Sierra Club, Southern Alliance for Clean Energy, the Upper Neuse Riverkeeper, the Upper Watauga Riverkeeper, the Waccamaw Riverkeeper, Western North Carolina Alliance, the White Oak-New Riverkeeper, and the Yadkin Riverkeeper (collectively, "Petitioners"), hereby petition the Administrator ("the Administrator") of the United States Environmental Protection Agency ("EPA") to object to the proposed Title V Renewal Permit ("Draft Title V Renewal Permit") for the Cliffside Steam Station ("Cliffside")

[1] A program of the North Carolina Council of Churches.

owned and operated by Duke Energy Carolinas, LLC ("Duke") in Rutherford County, North Carolina.

The North Carolina Department of Environment and Natural Resources, Division of Air Quality ("DAQ") noticed the Draft Title V Renewal Permit (Air Quality Permit No. 04044T29) for the entire Cliffside Steam Station, specifically including Units 1 – 6, on September 29, 2008. A copy of the permit is provided as Tab 1 on the accompanying CD, which contains all the attachments to this Petition. On December 15, 2008, DAQ proposed approving a modification to the Draft Title V Renewal Permit to include two "State-Only" requirements that would apply only to Unit 6: (1) blanket emission limits for hazardous air pollutants ("HAPs") of 10 tons per year for any single HAP and 25 tons per year for any combination of HAPs; and (2) a limited number of stack tests for hydrogen chloride, hydrogen fluoride, and hydrogen cyanide following initial start-up of Unit 6. Modified Draft Title V Renewal Permit No. 04044T29 ("Modified Draft Title V Renewal Permit") p. 51, Section 13 (Dec. 15, 2008) (Tab 2).

Petitioners base this Petition on comments to the Draft Title V Renewal Permit, which they filed with DAQ on October 30, 2008, and on comments to the Modified Draft Title V Renewal Permit, which they filed with DAQ on January 22, 2009.[2] Petitioners incorporate by reference as attachments to this Petition their October 30, 2008 comments and attachments (Tabs

[2] Two subsets of Petitioners, as detailed below, filed the October 30, 2008 and January 22, 2009 comments.

The following petitioners collectively filed the October 30, 2008 comments: Appalachian Voices, the Canary Coalition, the Cape Fear Riverkeeper, Catawba Riverkeeper Foundation, Carolinas Clean Air Coalition, Clean Water for North Carolina, Environmental Defense Fund, the French Broad Riverkeeper, National Parks Conservation Association, Natural Resources Defense Council, North Carolina Conservation Network, North Carolina Interfaith Power & Light2, N.C. Waste Awareness and Reduction Network, the Pamlico-Tar Riverkeeper, Sierra Club, Southern Alliance for Clean Energy, the Upper Watauga Riverkeeper, Western North Carolina Alliance, and the Yadkin Riverkeeper.

The following petitioners collectively filed the January 22, 2009 comments: Environmental Defense Fund, National Parks Conservation Association, Natural Resources Defense Council, Sierra Club, and Southern Alliance for Clean Energy.

3 and 4 on the accompanying CD), and their January 22, 2009 comments and attachments (Tabs 5 – 18).

INTRODUCTION

Petitioners respectfully urge the Administrator to object to the proposed Title V renewal permit for Duke's new Unit 6 at its Cliffside Steam Station because the permit lacks applicable Clean Air Act requirements established to protect people and the environment from the significant quantities of more than 60 HAPs and several criteria pollutants that Unit 6 will emit over the course of its planned 50 year or more operational life. A comprehensive and thorough review and objection by EPA is especially vital here because the proposed Title V renewal permit would pose severe risks to people's health and the environment by unlawfully exempting the new 800 megawatt Unit 6 from the highly protective, case-by-case maximum achievable control technology ("MACT") requirements for HAPs, as well as the full pre-construction prevention of significant deterioration ("PSD") review and appropriate best available control technology ("BACT") requirements for carbon dioxide ("CO_2"), sulfur dioxide ("SO_2"), nitrogen oxides ("NO_x"), fine particle pollution ("$PM_{2.5}$"), coarse particle pollution ("PM_{10}"), and lead. The deficiencies in the proposed permit are exacerbated because the permit lacks adequate monitoring, recordkeeping, and reporting requirements to demonstrate compliance with important Clean Air Act requirements.

First, the proposed renewal permit unlawfully exempts Unit 6 from the case-by-case MACT requirements of § 112(g) of the Clean Air Act by mistakenly characterizing Unit 6 as a minor source of HAPs based on a misinterpretation of the source's "potential to emit." In particular, the proposed permit assumes Unit 6 is a minor HAP source based on assumptions regarding the characteristics of the coal Unit 6 will burn and the continuous HAP removal

efficiency of its pollution controls even though these assumptions are contradicted in the record and, more importantly, are not included as federally or practicably enforceable limitations on the maximum physical capacity of Unit 6 to emit HAPs based on its physical or operational design. These errors are compounded by the fact that the proposed permit lacks periodic monitoring requirements that would assure compliance with the minor source claims.

Second, the proposed permit fails to include a full PSD review and appropriate BACT limits for SO_2 and NO_x, even though Unit 6 is a major modification that would result in a significant net emissions increases of these pollutants. The proposed permit allows Unit 6 to evade PSD and BACT requirements by improperly crediting proposed emission reductions from existing Units 1-5, even though those emissions are unlawful and the reductions are already required by law. Moreover, the proposed permit uses the wrong "lookback" period to inappropriately inflate the baseline SO_2 and NO_x emission rates from Units 1-5 and, thereby, exaggerate the actual level of reductions that could be achieved from those units even if the reductions were legally creditable for netting purposes. Finally, the proposed permit only contemplates the additional SO_2 and NO_x emissions from new Unit 6 itself, and fails to account for the significant additional pollution increases from the other equipment associated with Unit 6.

Third, the proposed permit entirely fails to conduct PSD review or establish BACT limits for CO_2. PSD and BACT requirements apply to all pollutants that are regulated or subject to regulation under the Act. CO_2 is unquestionably an "air pollutant" under the Act. Massachusetts v. EPA, 127 S. Ct. 1438, 1462 (2007). And, as the Environmental Appeals Board recently held, EPA's historical interpretation of "subject to regulation" most naturally "augurs in favor of a finding that" CO_2 is subject to regulation under the Act. In re Deseret Power Electric

Cooperative, PSD Appeal 07-03 at 41 (EAB Nov. 13, 2008) Therefore, the proposed permit must—but does not—conduct a full PSD review and set BACT emission limits for CO_2.

Fourth, the proposed permit does not reflect an appropriate BACT review or contain proper BACT limits for $PM_{2.5}$, lead, or PM_{10}. Even though $PM_{2.5}$ is a separately regulated criteria pollutant—with unique formation and behavioral characteristics and posing distinct threats to people's health—the propose permit unlawfully adopted PM_{10} controls as BACT for $PM_{2.5}$. Similarly, the propose permit failed to conduct any BACT review for lead by improperly assuming PM_{10} controls would constitute BACT for lead, as well. These errors are magnified because the PM_{10} limit itself does not reflect the BACT level of control.

Fifth, all of the permit's BACT limits unlawfully exempt Unit 6 from BACT requirements during periods of start-up, shutdown, and malfunction. See 40 C.F.R. § 51.166(b)(12).

Sixth, the lack of adequate continuous or periodic monitoring, reliable recordkeeping, and prompt reporting exacerbates the significant defects in the proposed permit.

Finally, the public was not provided with an adequately informative notice and an opportunity to comment on the draft permit in a meaningful way. Individually, any of these defects warrant an objection by the Administrator. In combination, they demonstrate that the proposed permit is fatally flawed and unlawful. Accordingly, for the reasons discussed more fully below, Petitioners urge the Administrator to object to the proposed Title V renewal permit for Cliffside Unit 6.

PROCEDURAL BACKGROUND

DAQ originally issued to Duke a Title V permit, Permit No. 04044T20, for the Cliffside Steam Station, comprising Units 1 – 5, on September 23, 2003. On January 14, 2008, Duke submitted an application for renewal of the Title V permit for Cliffside Units 1 – 5, which was set to expire on October 31, 2008.

On January 29, 2008, DAQ issued Air Quality Permit No. 04044T28, which purported to authorize the construction of new Cliffside Unit 6 and associated facilities, as well as the continued operation of Units 1 – 5 ("Permit 04044T28"). DAQ styled the permit as a "2Q .0501(c)(2) modification" of the existing Title V permit for Cliffside. Under this provision, a facility owner or operator may obtain a combined construction and operation permit pursuant to 15A N. C. Admin. Code 2Q .0300, et seq., and must file a complete Title V application within 12 months after commencing operation. 15A N.C. Admin. Code 02Q .0501(c)(2);15A N.C. Admin. Code 02Q .0504. DAQ did not perform a maximum achievable control technology ("MACT") analysis prior to issuing Permit 04044T28 nor did it include in the construction permit MACT emissions limits for the HAPs that would be emitted from Unit 6, as required by section 112(g) of the Clean Air Act, 42 U.S.C. § 7412(g).

Duke claims that it began construction on Unit 6 on January 30, 2008, the day after it received the Unit 6 construction permit.[3] Also on January 30, 2008, Duke amended its pending Title V renewal permit application for the Cliffside Steam Station to "incorporate changes associated with [Permit 04044T28]," namely Unit 6 and associated equipment. Duke requested that DAQ include in the Title V renewal permit the renewal of Part II, Section 1 of Permit

[3] Duke purportedly commenced construction just nine days before the U.S. Court of Appeals for the D.C. Circuit issued a decision vacating as unlawful the regulations on which DAQ had based its decision to exempt Unit 6 from section 112(g). See New Jersey v. EPA, 517 F.3d 574, 583 (Feb. 8, 2008) (holding that coal- and oil-fired EGUs "remain listed [as sources of HAPs] under section 112.").

04044T28 for "those sources and control devices related to ... the Cliffside Unit 6 permit application and the Cliffside Unit 5 Wet Flue Gas Desulfurization Project permit application." On September 29, 2008, DAQ noticed the Draft Title V Renewal Permit, which included Unit 6 and associated equipment.

Meanwhile, on June 2, 2008, DAQ wrote to Duke, expressing uncertainty whether section 112(g) applied to Unit 6, but nonetheless requesting that Duke agree voluntarily to undertake an assessment of its HAP emissions, "consistent with the analyses that would apply under [CAA] § 112." Tab 4 Att. 15. Duke responded to DAQ on June 13, 2008, asserting that a section 112(g) case-by-case MACT determination was not required for Unit 6, but agreeing to undertake a "MACT-like" analysis, without ceasing construction and "without waiving any of its rights." Tab 4 Att. 16. On July 3, 2008, Duke submitted its "MACT-like" assessment to DAQ and reiterated its position that Unit 6 was not subject to the requirements of CAA § 112(g). Tab 4 Att. 17. On July 16, 2008, after providing Duke, the State of North Carolina, and the federal government 60 days' notice, Petitioners[4] filed a lawsuit against Duke in federal court in the Western District of North Carolina, seeking a determination that CAA § 112(g) applied to Duke's construction of Unit 6 and that Duke was violating its requirements. Tab 19.

Throughout the permitting process for Unit 6 and the MACT-like process, Duke consistently represented that HAP emissions at Unit 6 would exceed the major source threshold of 10 tons/year of a single HAP and/or 25 tons/year of all HAPs, calculated based on the unit's "potential to emit." Duke's original December 16, 2005 construction and operation permit application for Cliffside Unit 6, as well as the subsequent applications, revisions, and supporting documents that Duke submitted to DAQ, showed that total HAP emissions from Unit 6 would

[4] A subset of Petitioners filed the lawsuit. The following petitioners are parties to the lawsuit: Environmental Defense Fund, National Parks Conservation Association, Natural Resources Defense Council, Sierra Club, and Southern Alliance for Clean Energy.

exceed 217 tons per year. Tabs 34, 31. Specifically, Duke's calculations showed that with the planned pollution controls for Unit 6 emissions of hydrogen chloride ("HCl") would be 171.9 tons per year and emissions of hydrogen fluoride ("HF") would be 22.4 tons per year. Id.

However, on October 14, 2008—just two days before a hearing in the federal district court case and three days before DAQ had previously indicated that it would issue its Draft MACT-like Determination—Duke submitted to DAQ a letter and attachments, claiming that Cliffside Unit 6 is "not a *major* source of HAPs, which means that Section 112(g) does not apply . . ." to Unit 6. (emphasis in original). Duke asked DAQ to concur with that claim and to "so conclude th[e] voluntary" MACT-like process. Oct. 14 Letter from Duke to DAQ, Tab 4 Att. 18. On October 23, 2008, Duke submitted "corrected" application materials for the Unit 6 construction permit based on the same information contained in Duke's October 14, 2008 submission. While maintaining that Unit 6 is a natural minor source of HAPs and that Duke does not need to modify its permit to confirm that status, Duke filed corrected application materials to include permit terms to limit emissions of HAPs below the major source threshold of 10 tons per year for any single HAP and 25 tons per year for all HAPs. Tab 4 Att. 22.

On December 2, 2008, U.S. District Judge Lacy H. Thornburg issued a Memorandum and Order ("Order") and Judgment in the federal court case, finding that "Unit 6 is an EGU under construction which has the potential to emit in excess of ten tons per year of an individual HAP (hydrochloric acid) and over 25 tons of a combination of other HAPs," that CAA § 112(g) applied to Unit 6, and that Duke was violating the requirements of CAA § 112(g). Order, at 21-22, 24. (The Order and Judgment are attached as Tabs 20 and 21, respectively.) Judge Thornburg held that DAQ "has the authority and duty to enforce the requirement of a full MACT

proceeding," and ordered that Duke complete a "case-by-case type MACT public process" before DAQ within 60 days. Judgment ¶¶ 4, 5 (Tab 21).

On December 4, 2008, Duke sent a letter to DAQ reiterating its request for concurrence in its minor source claim and resubmitting materials it had previously submitted to DAQ in October in support of that claim. Duke also resubmitted materials it had submitted to DAQ as part of the MACT-like process "to indicate what MACT limits would be appropriate if CAA § 112(g) did apply to the construction of [Unit 6]."[5] Tab 22 at 5.

On December 15, 2008, DAQ issued a notice and called for public comments on its proposal to approve the Modified Draft Title V Renewal Permit. Tab 29. The Modified Draft Title V Renewal Permit is identical to the Draft Title V Renewal Permit DAQ noticed on September 29, 2008, and on which Petitioners submitted comments on October 30, 2008, except that the modified permit also contained the above-described blanket HAP emission limits and limited stack test requirements for Unit 6.

On December 17, 2008, DAQ sent Duke a Notice of Intent to Disapprove Duke's CAA § 112(g) MACT application. Tab 23. Duke responded on December 23, 2008, requesting that DAQ suspend the case-by-case MACT process until it finalizes the minor source modification to the Cliffside's existing permit, at which point, according to Duke, CAA § 112(g) requirements will not apply to Cliffside Unit 6. Tab 24. To date, DAQ has not finalized the Modified Draft Title V Renewal Permit.

[5] In its submission, Duke relied on EPA's 2004 proposed rule entitled "Proposed National Emissions Standards for Hazardous Air Pollutants; and, in the Alternative, Proposed Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units." Because EPA abandoned this proposed rule when it adopted the Clean Air Mercury Rule on March 29, 2005, Duke's reliance on the 2004 proposed rule was improper. See 70 FR 15994, 16032.

REGULATORY FRAMEWORK

Title V of the Clean Air Act, 42 U.S.C. §§ 7661-7661f, prohibits any person from operating a major stationary air pollution source, such as Cliffside, except in compliance with an operating permit issued by the state permitting authority. A Title V permit collects, in one document, all enforceable emissions limitations and standards for the source and contains provisions for assuring compliance with those applicable requirements. 42 U.S.C. § 7661c(a), 40 C.F.R. § 70.1(b); 15A N.C. Admin. Code 02Q .0501(e) & .0508(b). The federal Title V regulations provide that "[w]hile title V does not impose substantive new requirements . . . [a]ll sources subject to these regulations shall have a permit to operate that assures compliance by the source with all applicable requirements." 40 C.F.R. § 70.1(b).

As EPA has explained:

> [R]egulations are often written to cover broad source categories, therefore, it may be unclear which, and how, general regulations apply to a source. As a result, EPA often has no easy way to establish whether a source is in compliance with regulations under the Act. The title V permit program will 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. Increased source accountability and better enforcement should result. The program will also greatly strengthen EPA's ability to implement the Act and enhance air quality planning and control, in part, by providing the basis for better emission inventories.

57 Fed. Reg. 32250 (July 21, 1992). The regulations in 40 C.F.R. Part 70, which govern the State Operating Permit Programs, require that Title V permits include all "applicable requirements." See 40 C.F.R. §§ 70.1(b), 70.3(c)(1), 70.7(a)(1)(iv). "Applicable requirements" include, *inter alia*, any provision of the North Carolina State Implementation Plan ("SIP"), including Prevention of Significant Deterioration ("PSD") requirements, any term or condition of any preconstruction permit, any standard or requirement under Clean Air Act sections 111, 112, 114(a)(3), or 504, as well as the Act's acid rain program requirements. 40 C.F.R. § 70.2.

A Title V permit is issued for up to five years, 40 C.F.R. § 70.6(a)(2), and the applicant must submit an application for renewal of the permit "at least 6 months prior to the date of permit expiration, or such other longer time as may be approved by the Administrator that ensures that the term of the permit will not expire before the permit is renewed," 40 C.F.R. § 70.5(a)(1)(iii). Permits being renewed are subject to the same procedural requirements, including those for public participation and affected State and EPA review that apply to the initial permit issuance. 40 C.F.R. § 70.7(c)(1)(i); 15A N.C. Admin. Code 02Q .0513.

This petition is timely. It is filed within sixty days following the end of EPA's 45-day review period as required by Clean Air Act § 505(b)(2). Accordingly, the Administrator must grant or deny this petition within sixty days after it is filed. 42 U.S.C. § 7661d(b)(2). If the EPA Administrator determines that the proposed Title V permit for Cliffside does not comply with the requirements of the Clean Air Act or any "applicable requirement," she must object to its issuance. Id.; 40 C.F.R. § 70.8(c)(1) ("The [EPA] Administrator will object to the issuance of any proposed permit determined by the Administrator not to be in compliance with applicable requirements or requirements under this part.").

GROUNDS FOR OBJECTION

I. THE ADMINISTRATOR MUST OBJECT TO THE DRAFT TITLE V RENEWAL PERMIT BECAUSE IT LACKS MAXIMUM ACHIEVABLE EMISSION CONTROL LIMITS FOR ALL HAPS UNIT 6 WILL EMIT.

The Draft Title V Renewal Permit and the Modified Draft Title V Renewal Permit[6] violate the Clean Air Act, federal Title V regulations, and approved provisions of North Carolina's SIP because they lack the case-by-case MACT determination and emission limits required for new major sources of HAPs pursuant to 42 U.S.C. § 7412(g)(2)(B). Coal-fired power plants like Unit 6 have been subject to the case-by-case MACT requirements of Clean Air Act § 112 since December 2000, when EPA placed them on the Section 112(c) list of sources subject to the Act's hazardous air pollution provisions. See 65 Fed. Reg. 79,825 (Dec. 20, 2000) (placing coal-fired electric generating units ("EGUs") on the Section 112(c) list of sources subject to HAP requirements); see also New Jersey v. EPA, 517 F.3d 574, 583 (D.C. Cir. 2008) (holding coal-fired EGUs "remain listed" as sources subject to Clean Air Act § 112 requirements since EPA's December 2000 listing decision); Southern Alliance for Clean Energy v. Duke Energy Carolinas, LLC, No. 1:08CV318, slip op. at 21-22, 24 (W.D.N.C. Dec. 2, 2008);[7] and

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[6] In this Petition, Petitioners object to both the September 29, 2008 Draft Title V Renewal Permit and the December 15, 2008 Modified Draft Title V Renewal Permit. DAQ provided both draft permits to EPA for review and comment. But DAQ, in an effort to dissuade EPA from targeted review of the Modified Draft Title V Renewal Permit, asserted that the modified permit contained "State-Only" HAP limits for Unit 6. See Email from D. van der Vaart to G. Worley et al., December 23, 2008, Tab 25. DAQ's assertion that the December 15, 2008 modifications to the Draft Title V Renewal Permit are "State-Only" requirements does not detract from the legal requirement that every Title V Permit must contain all applicable Clean Air Act requirements, including, in this case, the requirements of CAA § 112(g). Significantly, DAQ does not dispute that the Unit 6 conditions and limitations are integral to the Title V permit process. It also is telling that DAQ has failed to fulfill its non-discretionary duty to issue a final Title V Permit within five days of the culmination of EPA's 45-day review process. 15A N.C. Admin. Code 02Q .0525(a)(7) (EPA's 45-day review period expired on November 14, 2008, without an EPA objection; DAQ's deadline for issuing the Title V Permit thus lapsed no later than November 21, 2008). The most logical explanation for DAQ's failure to fulfill this non-discretionary obligation is that DAQ has not yet processed and finalized Duke's request for a permit modification to designate Unit 6 as a minor HAP source. This further confirms the fact that Unit 6 is included in the Title V Renewal Permit process and is subject to EPA review and objection. Therefore, all objections Petitioners raise concerning the Draft Title V Renewal Permit also apply to the Modified Draft Title V Renewal Permit.

[7] Though the decision in Southern Alliance for Clean Energy v. Duke Energy Carolinas, LLC was rendered after the deadline for commenting on the Draft Title V Renewal Permit, Petitioners raised the same factual and legal objections presented to the Court in that case in their comments to DAQ on Duke's Title V Renewal Permit

Memorandum from Robert J. Meyers to EPA Regional Administrators Re: Application of CAA Section 112(g) to Coal- and Oil-fired Electric Utility Steam Generating Units that Begin Construction Between March 29, 2005 and March 14, 2008 (Jan. 7, 2009) (Tab 26).

As discussed below, Unit 6 is a major source of HAPs based on its potential to emit well above the 10-tons-per-year major source threshold for an individual HAP and 25-tons-per-year major source threshold for a combination of HAPs. 42 U.S.C. § 7412(a)(1); see also 42 U.S.C. § 7661(2)(A). Despite the fact that Unit 6 is a major HAP source, however, the Draft Title V Renewal Permit and Modified Draft Title V Renewal Permit do not include a MACT determination or MACT-based emission limits for any of the more than fifty HAPs Unit 6 will emit. Further, Duke unlawfully commenced construction, and for approximately one year has continued constructing Unit 6 in violation of the Clean Air Act's proscription that "no person may construct or reconstruct any major source of [HAPs] unless the Administrator (or the State) determines that the [MACT] emission limitations under this section for new sources will be met."[8] 42 U.S.C. § 7412(g)(2)(B). Therefore, for the reasons stated more fully below and in Petitioners' written comments submitted to DAQ on October 30, 2008 and January 22, 2009 (Tabs 3 – 18), the Administrator must object to the Draft Title V Renewal Permit. 40 C.F.R. § 70.8(c)(1).

A. Unit 6 Is Subject to Title V Requirements, Including EPA Review and Objection.

There is no question that Duke has included Unit 6 in its amended Title V renewal permit application for the Cliffside Steam Station. Similarly, there is no question that DAQ has issued a

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Application. Petitioners expressly cited the Southern Alliance for Clean Energy decision in their January 22, 2009 comments on the Modified Draft Title V Renewal Permit.

[8] Importantly, Duke's construction permit for Unit 6 expired by its own terms on October 31, 2008. Final Air Quality Permit, January 29, 2008 (Tab 38). There is no "application shield" for construction permits. Thus, Duke has been violating the Clean Air Act by constructing Unit 6 without a valid construction permit since October 31, 2008.

Draft Title V Renewal Permit and Modified Draft Title V Renewal Permit that includes Unit 6 among the covered sources at the Cliffside Steam Station. As detailed in the Procedural History section above, Duke obtained a construction permit for Unit 6 on January 29, 2008. The very next day, on January 30, 2008, Duke amended its pending application for renewal of the Cliffside facility Title V permit to include Unit 6. Tab 27. On September 29, 2008, DAQ issued a notice for public comments on the Draft Title V Renewal Permit for the Cliffside facility, including Unit 6. Tab 28. Then, on December 15, 2008, DAQ issued notice of its intent to approve, and requested public comment on, a Modified Title V Renewal Permit (Tab 29) that is identical to the Draft Title V Renewal Permit DAQ noticed on September 29, 2008, except that the modified permit contains 10- and 25-tons-per-year blanket HAP emission limits and a one-time or limited stack test requirement for Unit 6 when it commences operation.

Unit 6 clearly is a part of the Cliffside Facility Draft Title V Renewal Permit and is subject to EPA review and objection. By amending the Title V permit renewal application for the Cliffside facility to include Unit 6, Duke included Unit 6 in the Title V permitting process. By indicating to the public in the September 29, 2008 notice for public comments that Unit 6 was included in the Title V Renewal Permit process, and by including Unit 6 in the Draft Title V Renewal Permit and the Modified Draft Title V Renewal Permit, DAQ included Unit 6 in the Title V permitting process and rendered it subject to all of the procedural and substantive safeguards of federal and state Title V regulations, including the right of EPA review and objection. Thus, the Administrator has the authority and, as demonstrated below, the obligation to review and object to the Draft Title V Renewal Permit because it lacks the MACT determination and MACT-based emission limits required for major new sources of HAPs, like Unit 6.

Federal and North Carolina's SIP-approved Title V regulations specify that all Title V permits must include all applicable section 112 standards. Under 40 C.F.R. § 70.1(b) and Clean Air Act § 504(a), each facility that is subject to Title V permitting requirements must obtain a permit that "assures compliance by the source with all applicable requirements." See also 40 C.F.R. § 70.6(a)(1) (requiring "[e]ach permit issued under this part shall include . . . [e]mission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance."). EPA's Title V regulations then define "[a]pplicable requirements" to include "[a]ny standard or other requirement under section 112 of the Act." 40 C.F.R. § 70.2.

Similarly, North Carolina's SIP-approved Title V regulations provide that all Title V permits "shall specify emission limitations and standards, including operational requirements and limitations, that assure compliance with all applicable requirements at the time of permit issuance." 15A N.C. Admin. Code 02Q .0508(b). North Carolina's air permitting regulations define "[a]pplicable requirements" to include "any standard or other requirement under Section 111 or 112 of the federal Clean Air Act . . . ." 15A N.C. Admin. Code 02Q .0103(5)(d). Thus, the Draft Title V Renewal Permit and Modified Draft Title V Renewal Permit for Unit 6 must—but do not—include the case-by-case MACT determination and MACT-based emission limits and standards required by CAA § 112(g). The Administrator should, therefore, object to the Draft Title V Renewal Permit and require a case-by-case MACT determination and MACT-based emission limits as part of this Title V permitting process.

As noted above, DAQ has not yet issued a final Title V Renewal Permit, nor has it responded to Petitioners' comments on the draft Title V Renewal Permits. However, DAQ has offered its purported rationale for failing to include a MACT determination and emission limits

in the proposed Title V permit. Dec. 23, 2008 email from D. van der Vaart to G. Worley et al. (Tab 25). Notably, DAQ does not deny that Unit 6 is included in the Draft Title V Renewal Permit or the Modified Draft Title V Renewal Permit. Instead, according to DAQ, a MACT determination and HAP limits are not required because Unit 6 is a minor source of HAPs and, further, the Modified Draft Title V Renewal Permit contains as a "State Only" requirement blanket emissions limitations for HAPs that mirror the 10 – 25 tons per year "major source" thresholds for the applicability of section 112(g) of the federal Clean Air Act. Neither of these purported justifications has merit.[9] First, as discussed in section B below, the 800-megawatt Unit 6 clearly is a major source based on its potential to emit HAPs. Second, as discussed in section C below, Duke cannot skirt federal legal requirements for controlling HAP emissions under Clean Air Act § 112 by adopting blanket emission limitations as a "State Only" requirement in a Title V permit.

[9] Duke also has attempted to justify the legal deficiencies in the proposed Title V permit by arguing the construction and operation permit for Unit 6 was issued under 15A N.C. Admin. Code 02Q .0501(c)(2), and does not involve the Title V process at all. This argument is equally unavailing. First, Duke's purported excuse evaporated when it amended its Title V permit renewal application on January 30, 2008 to include the newly permitted Unit 6. Second, the state regulatory provision on which Duke relies specifically provides that Title V processing procedures—including the right of EPA review and objection—apply to permits issued under 15A N.C. Admin. Code 02Q .0501(c)(2). See 15A N.C. Admin. Code 02Q .0504(c) (providing, in pertinent part, that "[i]f the option allowed under Rule .0501(c)(2) of this Section is used, then the application ***processing procedures in this Section*** [containing Title V Procedures] and . . . under 15A NCAC 2D .0530 for prevention of significant deterioration . . . ***shall apply***.") (emphasis added). The regulatory "Section" Rule 02Q .0504(c) refers to includes Rule 15A N.C. Admin. Code 02Q .0528 (requiring a case-by-case MACT determination and MACT-based limits for major HAP sources) and Rule 15A N.C. Admin. Code 02Q .0522 (which provides for EPA review of Title V permits). See 15A N.C. Admin. Code 02Q .0501(a), (c); 0504(c) (distinguishing between "this Section," which denotes the Title V Procedures Section appearing at 15A N.C. Admin. Code 02Q .0500, et seq., and "Rule," which refers to individual regulations under the Title V Procedures Section). Duke's purported rationale would unlawfully nullify the plain language in 15A N.C. Admin. Code 02Q .0501, which clearly distinguishes between the Title V Procedures in "Section" 02Q .0500, et seq., and the individual "Rules" that together constitute that section, and therefore cannot stand. Fund for Animals, Inc. v. Kempthorne, 472 F.3d 872, 877-78 (D.C. Cir. 2006) (rejecting plaintiffs' interpretation because a statute should be construed "so that no part will be inoperative or superfluous, void or insignificant, and so that one section will not destroy another unless the provision is the result of obvious mistake or error") (internal quotation marks and citation omitted); Benavides v. DEA, 968 F.2d 1243, 1248 (D.C. Cir. 1992) (rejecting Attorney General's interpretation of statutory provision because it would make provision "either superfluous or meaningless"); RCA Global Communications, Inc. v. FCC, 758 F.2d 722, 733 (D.C. Cir. 1985) (rejecting interpretation that "would deprive [the provision] of all substantive effect, a result self evidently contrary to Congress' intent").

B. Unit 6 Is a Major Source of HAPs Based on its "Potential to Emit."

As explained in detail in Petitioners' October 30, 2008 and January 22, 2009 Comments (Tabs 3 – 18), Unit 6 is a major source of HAPs based on its "potential to emit" HAPs in excess of the 10- and 25-tons-per year major source thresholds.[10] Additionally, Unit 6 would remain a "major source" of hazardous air pollution under the conditions of DAQ's Modified Draft Title V Renewal Permit, which does not include federally or practicably enforceable permit conditions that will restrict HAP emissions below the major source threshold. Thus, the Administrator must object to the Draft Title V Renewal Permit because it lacks "applicable requirements" under Clean Air Act § 112(g).[11]

1. Definition of "Potential to Emit"

The Clean Air Act and North Carolina regulations define a major source of HAPs as any stationary source that has "the potential to emit considering controls . . . 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air

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[10] As Petitioners noted to DAQ in their October 30, 2008 comments, two recently permitted coal-fired power plants that have a smaller generating capacity than does Cliffside Unit 6 easily surpass the major source threshold based on their potential to emit HAPs. In Virginia, the Department of Environmental Quality issued to Virginia Electric and Power Company a permit to construct and operate a coal-fired steam electric generating plant in Wise County, Virginia. The Wise County plant will consist of two coal-fired circulating fluidized bed (CFB) boilers that have a combined gross electrical output of 668 megawatts. These CFB boilers have a potential to emit over 240 tpy of HAPs, including 181 tpy of HCl and 48.86 tpy of Organic HAPs, taking into account the following control technology: furnace limestone injection, dry flue gas desulfurization, fabric filter baghouse, good combustion practices and activated carbon injection. In South Carolina, the Department of Health and Environmental Control issued to Santee Cooper a permit to construct and operate the Pee Dee Generating Station in Florence County, South Carolina, consisting of two 660-megawatt pulverized-coal boilers. Each 660-MW boiler has the potential to emit 90.53 tpy of total HAPs, including 68.1 tpy of HCl, and will contain flue gas desulfurization, a fabric filter baghouse, low NOX burners, two-level separated overfire air, and a Selective Catalytic Reduction system.

[11] In addition to the reasons discussed in the remainder of this section, the Administrator must object to the Draft Title V Renewal Permit and the Modified Draft Title V Renewal Permit because they improperly fail to include fugitive HAP emissions from Unit 6 and its associated equipment in calculating the source's "potential to emit." Under North Carolina's SIP regulations, "[p]otential emissions include fugitive emissions as specified in the definition of major source in 40 CFR 70.2." 15A N.C. Admin. Code 02Q .0103(28). With respect to HAPs, 15A N.C. Admin. Code 02Q .0103(28) defers to EPA regulations appearing in 40 C.F.R. Part 63, which provide "[f]ugitive emissions means those emissions from a stationary source that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Under section 112 of the Act, all fugitive emissions are to be considered in determining whether a stationary source is a major source." 40 C.F.R. § 63.2. Thus, a source's fugitive emissions must be included in "potential to emit" calculations under either Part 70 or Part 63.

pollutants." 42 U.S.C. § 7412(a)(1); see 15A N.C. Admin. Code 02D.1112(c)(4) (defining "Construct a major source"); 40 C.F.R. § 63.41 (same). The concept of "potential to emit" HAPs, as defined by EPA and North Carolina and as interpreted by the courts, is fundamental to determining Unit 6's major-source status. See United States v. Louisiana-Pacific Corp., 682 F. Supp. 1122, 1133 (D. Colo. 1987) ("The concept of 'potential to emit' is the cornerstone of the entire [preconstruction permitting] program.").

Under North Carolina's approved SIP, "[p]otential emissions" are defined as:

> [T]he rate of emissions of any air pollutant that would occur at the facility's ***maximum capacity to emit any air pollutant under its physical and operational design***. Any physical or operational limitation on the capacity of a facility to emit an air pollutant shall be treated as a part of its design ***if the limitation is federally enforceable***. Such physical or operational limitations include air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed. Potential emissions include fugitive emissions as specified in the definition of major source in 40 CFR 70.2.

15A N.C. Admin. Code 02Q .0103(28) (emphasis added). Federal regulations contain the same definition of "potential to emit." See 40 C.F.R. § 63.2 (defining "potential to emit" in same fashion).

These regulations make clear that a source's "potential to emit" is determined based on its "maximum capacity to emit" and only takes into account pollution controls or operational limitations if and to the extent they are federally enforceable. See Memorandum from John S. Seitz to Robert I. Van Heuvelen (Jan. 22, 1996) (Tab 30) (providing "[t]he court [in National Mining Association v. EPA, 59 F.3d 1351 (D.C. Cir. 1995)] did not vacate the section 112 regulations...[t]he regulations remain in effect pending completion of new rulemaking.") To date, EPA has not revised the section 112 regulations defining "potential to emit" appearing in 40 C.F.R. § 63.2. Importantly, even if EPA's section 112 regulations do not require that physical

or operational limitations be federally enforceable in order to limit a source's "potential to emit," North Carolina's approved SIP does. See 42 U.S.C. § 7410(k).

But even if EPA applies a "practical enforceability" standard that falls short of requiring federal enforceability, Unit 6 still unquestionably is a major HAP source. In the wake of the National Mining Association case, the U.S. Court of Appeals for the Second Circuit articulated an alternative standard for "potential to emit" determinations, explaining:

> [A] proposed facility that is physically capable of emitting major levels of the relevant pollutants is to be considered a major emitting facility under the Act ***unless there are legally and practicably enforceable mechanisms in place*** to make certain that the emissions remain below the relevant levels.

Weiler v. Chatham Forest Prod., Inc., 392 F.3d 532, 535 (2d Cir. 2004) (emphasis added).

Regardless of whether the test for "potential to emit" requires federally or merely practicably enforceable physical or operational limits, it is clear, based on Unit 6's physical and operational design—including the range of fuels Duke claims Unit 6 is physically capable of burning and allowed to burn, the potential rates and hours of operation of Unit 6, the variability of the effectiveness of the planned pollution control equipment, and the expectation of decreased plant efficiency over time—that Unit 6 is physically capable of emitting HAPs well above the major-source threshold. This fact is apparent from Duke's earlier emissions estimates for Cliffside Unit 6—including those contained in its construction permit application for Unit 6—which consistently stated that, even with pollution controls, Unit 6 would emit over 171 tons of hydrochloric acid (HCl), over 22 tons of hydrofluoric acid (HF), and over 217 tons of all HAPs combined. Duke's Mar. 31, 2007 amended permit application, Form B (Tab 31).

2. The Claim that Unit 6 Is a Minor HAP Source Is Based on Flawed Assumptions.

In contrast to its earlier submittals to DAQ, Duke claimed in an October 14, 2008 letter to DAQ, and again in its October 23, 2008 Corrected Application Materials for the Unit 6 construction permit, that Unit 6 is a minor source of HAPs. The Modified Draft Title V Renewal Permit accepts and incorporates these minor source claims and, as a result, it does not include a MACT-determination or MACT-based emission limits, even though it is clear Unit 6 is subject to the case-by-case requirements of Clean Air Act § 112(g). See Southern Alliance for Clean Energy v. Duke Energy Carolinas, LLC, No. 1:08CV318, slip op. at 21-22, 24 (W.D.N.C. Dec. 2, 2008);[12] see also Memorandum from Robert J. Meyers to EPA Regional Administrators Re: Application of CAA Section 112(g) to Coal- and Oil-fired Electric Utility Steam Generating Units that Begin Construction Between March 29, 2005 and March 14, 2008 (Jan. 7, 2009) (Tab 26). Regardless of the reason for the lack of a MACT determination and MACT-based emission limits, their absence renders the Modified Draft Title V Renewal Permit unlawful.

According to Duke's Corrected Application Materials, certain new assumptions about Unit 6 will bring its "potential to emit" below the major source threshold, representing an 85% decrease in combined HAP emissions without any changes to the physical design or operational limitations at the Cliffside facility. In particular, the minor source claim relies on three flawed assumptions: (1) Unit 6 will exclusively burn coal with a 33% higher heating value than previously stated; (2) Unit 6 will only burn coal with a chlorine content less than maximum levels for the types of coal Unit 6 is capable of burning; and (3) Unit 6's pollution controls will be far more effective than previously stated and these controls will consistently operate at peak

[12] Though the decision in Southern Alliance for Clean Energy v. Duke Energy Carolinas, LLC, was rendered after the deadline for commenting on Duke's Title V Renewal Permit, Petitioners raised the same factual and legal objections presented to the Court in that case in their comments to DAQ on Duke's Title V Renewal Permit Application.

levels of efficiency. Most importantly, neither the Draft Title V Renewal Permit nor the Modified Draft Title V Renewal Permit contains any conditions or limitations—federally enforceable or practicably enforceable—that limit the characteristics of the coal burned at Unit 6 or the consistent HCl-control efficiency of its pollution controls.

On November 7, 2008, SELC provided to DAQ a legal analysis and technical review conducted by Dr. Ranajit Sahu summarizing the legal and technical deficiencies of Duke's minor source claims.[13] After DAQ issued the Modified Draft Title V Renewal Permit on December 15, 2008, we requested that Dr. Sahu also review it and the minor source analysis DAQ conducted in an effort to support the Modified Draft Title V Renewal Permit. Dr. Sahu reported three significant technical flaws in the Modified Draft Title V Renewal Permit and DAQ's analysis. Dr. Sahu focused his analysis on HCl because it is the HAP that will be emitted in the largest quantity. As Dr. Sahu's report demonstrates, the HCl emissions from Unit 6 are a function of (1) the amount of HCl that will be formed, which is itself a function of the amount of coal that will be burned and the amount of chlorine in that coal; and (2) the amount of HCl that will be captured by Unit 6's pollution controls.

a. Heat Content of the Coal

The Modified Draft Title V Renewal Permit relies on improper and unsupported changes in assumptions about the heat content of the coal Unit 6 will burn. The effect of this change is to significantly reduce the amount of coal that Unit 6 is projected to burn, and correspondingly to project that less HCl will be formed. In its construction application, Duke assumed a heat content of 9,376 Btu/lb. See PSD Permit Application Addendum, Appendix B (May 29, 2007) (Tab 32) at 4. In its Corrected Application Materials, however, Duke assumed a heat content of

[13] On December 12, 2008, SELC resubmitted Dr. Sahu's technical review along with a cover letter discussing the law and the technical flaws in Duke's application. SELC's November 7, 2008 and December 12, 2008 letters are attached as Tabs 7 and 12, respectively; Dr. Sahu's expert report is attached as Tab 8.

12,777 Btu/lb. The Modified Draft Title V Renewal Permit accepts and is based on this. See DAQ Air Permit Review (December 15, 2008) (Tab 33) at 2. This 36% increase in assumed heat content reduces the amount of coal that Unit 6 is assumed to burn by more than 26%.

By failing to include a MACT determination and MACT-based emission limits, the Modified Draft Title V Renewal Permit unlawfully relies on the assumption that Unit 6 will burn higher-heat-content coal. This is improper because there is no enforceable requirement that would prevent Unit 6 from burning coals with a lower heat content.[14] Calculating whether Unit 6 is a major HAP source based on its potential to emit HCl—and, thus, whether the Modified Draft Title V Renewal Permit must contain MACT emission limits—requires selecting the coal blend that would result in the highest HCl emissions projections. By assuming a higher heat content, DAQ and Duke have improperly minimized Unit 6's potential HCl emissions. As Dr. Sahu indicates in his review, a blend of coals with a lower heat content would result in higher emissions of HCl that would exceed the 10-tons-per-year major-source threshold.

b. Chlorine Content of the Coal

Similarly, the Modified Draft Title V Renewal Permit relies on an unjustifiably low coal chlorine content. In its Corrected Application Materials, Duke assumes the maximum chlorine content will be 3209 ppm. DAQ accepted this assumption in proposing approval of the Modified Draft Title V Renewal Permit. See DAQ Air Permit Review (December 15, 2008) (Tab 33) at 2. However, as Dr. Sahu indicates in his technical analysis, the USGS Coal Quality Database reports that some coals from the regions where Duke is permitted to and intends to purchase coal have chlorine contents as high as 8800 ppm. Sahu Review, Tab 8 at 4. Therefore, Duke's submission, and DAQ's acceptance thereof, is improper because, by selecting a chlorine content

[14] This is particularly true here, where Duke has stated that Unit 6 is designed to maximize fuel flexibility and is capable of burning coals from throughout the United States and South America. Letter from James L. Turner to Keith Overcash (August 22, 2008) (Tab 4 Att. 21), at p. 5.

far lower than the maximum chlorine content among the coals it is permitted to burn, Duke has grossly underestimated the amount of HCl that will be formed.

The flaws in the assumptions regarding heat content and chlorine content alone show that Unit 6 has the potential to emit significantly above the 10-tons-per-year threshold for a single HAP. DAQ's permit review and the Modified Draft Title V Renewal Permit wrongly accept these flawed assumptions. As a result, the Modified Draft Title V Renewal Permit is unlawful because it lacks the applicable CAA § 112(g) requirements that apply to Unit 6 as a major source based on its potential to emit HCl in excess of the 10-tons-per-year threshold.

c. Projected Removal of HCl at Unit 6

In its submissions to DAQ between December 2005 and August 2008, Duke reported that Unit 6's pollution control equipment would remove 98% of the HCl that will be created during combustion. However, in its Corrected Application Materials, Duke asserts, and the Modified Draft Title V Renewal Permit accepts, that the same equipment will consistently remove 99.9% of the HCl in the flue gas. Id. There are several problems with this assertion and, consequently, with the Modified Draft Title V Renewal Permit. These flaws are magnified because the pollution controls for Unit 6 must consistently achieve an extraordinarily high level of HCl control that has not been demonstrated under normal operating conditions during the course of a year in order to exempt Unit 6 from the requirements of Clean Air Act § 112(g).

Even accepting the unsupported and unenforceable assumptions regarding the coal heat and chlorine content discussed above, Unit 6's HCl emissions would exceed 10 tons if the HCl removal efficiency were to drop just a small fraction of a percent from the 99.9% figure on which DAQ and Duke rely to justify the omission of a MACT determination and MACT-based emission limits in the Modified Draft Title V Renewal Permit. In order to limit HCl emissions to

less than 10 tons per year, the pollution controls for Unit 6 would have to achieve an average removal rate of greater than 99.8874%, even accepting the flawed assumptions regarding coal heat and chlorine content. Sahu Review, Tab 8 at 5. In other words, the slightest reduction in performance would cause Unit 6 to exceed the major source threshold.

The first and most remarkable flaw in Duke's claims regarding removal efficiency is the fact that tests conducted for Duke's pollution control vender, Alstom Power, Inc., refute Duke's claim. Duke claims that a report of stack test data from Duke's Marshall Steam Station prepared for Alstom Power supports its potential-to-emit calculations. Report on FGD Feedback Test Program, Unit 4 Absorber Inlet and Stack Duke Energy Marshall Steam Station (May 29, 2007), Tab 4 Att. 18 (Att. 2). To the contrary, in an October 14, 2008 letter, Alstom directly contradicts the claims Duke makes and on which the Modified Draft Title V Renewal Permit is based. Letter from Phil Rader, Business Manager of Alstom, to Sam Alexander, Duke Energy (Oct. 14, 2008), Tab 4 Att. 18 (Att. 3). Duke's central basis for claiming that it can achieve a continuous removal efficiency of 99.9% is its assertion that the new equipment at the Marshall Steam Station has achieved this reduction during a series of short-term SO_2 scrubber stack tests. However, Alstom reports that the HCl removal efficiency demonstrated at Marshall ranged between 99.7 and 99.9% removal of HCl, with an average of 99.87%. Id. at 1. Most of this range, including the average, falls below the level that would be required for Unit 6 to emit less than 10 tons per year of HCl. Nowhere in Alstom's letter does the company provide any assurance that the control equipment that will be used at Unit 6 could remove 99.9% of HCl on average under normal operating conditions over the course of a year. The most that Alstom states is that the removal control at Unit 6 will be better than at Marshall. Id. at 2. However, given the 99.7-99.9% range of performance at Marshall, this does not mean that the performance

will maintain HCl emissions below the 10-tons-per-year threshold. Furthermore, Alstom explicitly disavows any performance guarantee, stating that its letter does "not constitute a specific performance guarantee or warranty by Alstom for HCl or HF removal." Id.

Second, the test data Duke presented from the Marshall plant also fail to support Duke's claim. Rather than showing a consistent removal rate of at least 99.9%, the data show that on six of the 16 runs presented, the removal efficiency was below 99.8874%, the level Unit 6 would have to maintain in order to avoid major source status. Sahu Review, Tab 8 at 6.

Third, as Dr. Sahu explains in his report, Duke's claims that the controls at Unit 6 will be even better than at Marshall are entirely speculative. Duke provides no data in support of its claims that the design elements of its various control systems will improve efficiencies and ensure 99.9% HCl removal. As noted, Alstom in its letter fails to provide any quantified estimate of the improvement in HCl removal that the additional controls at Unit 6 may provide.

Finally, Duke adopts two positions in its Corrected Application Materials that directly contradict positions it took in its "MACT-like" submissions to DAQ on July 3, 2008 and August 22, 2008. Tab 4, Att. 20 and 21, respectively. The first inconsistency is Duke's prior rejection of reliance on short-term stack tests as a reasonable indicator of expected pollution control performance. Duke specifically pointed to HCl, stating "[a]s an example, hydrogen chloride ("HCl") . . . emissions are directly related to the amount of the pollutant in the fuel, which also varies even within the same coal seam. Short-term stack test results do not adequately account for that variability." See Duke's MACT-like Assessment, July 3, 2008 (Tab 4 Att. 20) at 10. In its Corrected Application Materials, however, Duke relies on just this type of short-term stack test when it cites short-term tests from the Marshall Steam Station.

The second inconsistency concerns reliance on statements from pollution control vendors. Duke previously asserted that pollution control effectiveness predictions by vendors like Alstom could only be relied on when the vendor provided a guarantee of the system's performance. "As you likely are aware, what vendor and consultant literature say about projected performance often overestimate what is eventually guaranteed. That is because the literature is based on speculation about what might happen; whereas a guarantee is based on hard engineering data and demonstrated performance with binding commercial repercussions." See Letter from J. Turner to K. Overcash, Aug. 22, 2008 (Tab 4 Att. 21) at 13. However, Duke's Corrected Application Materials rely on statements by its vendor, Alstom, which expressly disavows any guarantee. The Modified Draft Title V Renewal Permit unlawfully fails to include the MACT emission limits that apply to Unit 6 pursuant to CAA § 112(g) based on Duke's unproven and contradictory claims regarding the consistent HCl removal efficiency of Unit 6's pollution controls.

C. The Modified Draft Title V Renewal Permit's Conditions Will Not Render Unit 6 a "Minor" Source of HAPs.

On December 15, 2008, DAQ proposed approving the Modified Draft Title V Renewal Permit, purporting to assure the public that Unit 6 is a "minor source" by imposing "synthetic" minor source limits. The proposed modification would require that combined HAPs emissions are less than 25 tons per year and that total emissions of any single HAP are less than 10 tons per year. Modified Draft Title V Renewal Permit at 51, Section 13(a) (Dec. 15, 2008) (Tab 2). As demonstrated above, Unit 6 is a major source of HAPs based on its potential to emit HAPs above the major-source thresholds. For similar reasons, the sole modification contained in the Modified Draft Title V Renewal Permit will not render Unit 6 a "synthetic minor" HAP source.

The Modified Draft Title V Renewal Permit does not contain conditions that require compliance with the required assumptions regarding coal heat and chlorine content and claimed HCl removal efficiency necessary to support the minor source claim that underpins the absence of a MACT determination and MACT-based emission limits in the permit. The assumptions regarding coal heat and chlorine content and claimed HCl removal efficiencies, therefore, cannot be used to restrict Unit 6's "potential to emit." It is indisputable that Unit 6 is "physically capable" and allowed under the Modified Draft Title V Renewal Permit to burn coal with lower heat and higher chlorine contents than required to support the contention that Unit 6 is a minor HAP source. Similarly, the Marshall stack test data from which the minor source claim derives demonstrate that the pollution controls can and do operate at lower removal efficiencies than required to support the minor source claim, and nothing in the Modified Draft Title V Renewal Permit requires operation of the pollution controls at a consistent HCl removal efficiency. Thus, Unit 6 does not have federally enforceable limitations or "legally and practicably enforceable mechanisms in place to make certain that [its] emissions remain below the relevant levels." Weiler, 392 F.3d at 535. As a result, Unit 6 currently is a major source based on the unit's potential to emit HAPs.

As explained above, only physical and operational restrictions that are legally and practically enforceable may be used to limit a source's potential to emit for purposes of the major source determination. This requirement may not be satisfied by the type of blanket restriction on emissions contained in the Modified Draft Title V Renewal Permit, even though it is presented as a "State-Only enforceable" limit. In United States v. Louisiana-Pacific Corp., 682 F. Supp. 1122, 1133 (D. Colo. 1987), a federal court considering the type of physical and operational restrictions that can be used to limit a source's potential to emit concluded:

> [N]ot all federally enforceable restrictions are properly considered in the calculation of a source's potential to emit. While restrictions on hours of operation and on the amount of materials combusted or produced are properly included, blanket restrictions on actual emissions are not.

Of particular relevance here, the court in Louisiana-Pacific held that permit conditions which simply limited carbon monoxide emissions to 78 tons per year and volatile organic compounds to 101.5 tons per year should ***not*** be considered in determining "potential to emit," because these blanket emissions restrictions, unlike conditions such as limits on hours of operation, fuel consumption, or amount of production, "would be virtually impossible to verify or enforce." Id.

The same applies here. As Louisiana-Pacific demonstrates, the Modified Draft Title V Renewal Permit—which contains nothing more than blanket restrictions on HAP emissions—cannot support a minor source claim. That is, Unit 6 cannot avoid major source status simply by applying for and receiving a permit with "blanket restrictions" prohibiting HAP emissions at levels exceeding the major source threshold. In order to limit emissions below the major source threshold, and thus qualify Unit 6 as a "minor source," the Modified Draft Title V Renewal Permit must specify enforceable and verifiable limitations on rates or hours of operation, fuel or raw material types, or other practically enforceable aspects of design or operation that will make certain that emissions remain below the major source threshold. Even if the permit were amended to contain the required limits, the record contains no evidence that Duke or DAQ could monitor the HCl emissions from Unit 6 with sufficient precision to make the required permit limitations federally or practicably enforceable.

1. The Modified Draft Title V Renewal Permit Violates EPA's Longstanding Policy.

EPA policy is consistent with and reinforces the law described above. In a 1989 Memorandum regarding limits on "potential to emit," EPA addressed "[t]he appropriate means

of restricting potential to emit through permit conditions." June 13, 1989 Memorandum from Terrell Hunt, EPA Office of Enforcement and Compliance Monitoring and John S. Seitz, Office of Air Quality Planning and Standards ("1989 PTE Memo") (Tab 10) at 2.[15] In particular, EPA "addressed three questions: what types of permit limitations can legally limit potential to emit; whether long averaging times for production limitations are enforceable as a practical matter; and whether sources may limit potential to emit to minor source levels as a means of circumventing the preconstruction review requirements of major source review." Id. at 2-3. EPA has described what may qualify as PTE limits to include:

> in addition to control equipment, any federally enforceable physical or operational limitation. The Louisiana-Pacific[16] court found that blanket limits on emissions did not fit within the concept of proper restrictions on potential to emit as set forth by Alabama Power.[17] Moreover, Judge Arraj found that:
>
> > ...a fundamental distinction can be drawn between the federally enforceable limitations which are expressly included in the definition of potential to emit and (emission) limitations.... Restrictions on hours of operation or on the amount of material which may be combusted or produced ... are, relatively speaking, much easier to "federally enforce." Compliance with such conditions could be easily verified through the testimony of officers, all manner of internal correspondence and accounting, purchasing and production records. In contrast, compliance with blanket restrictions on actual emissions would be virtually impossible to verify or enforce.
>
> Id. Thus, Judge Arraj found that blanket emission limits were not enforceable as a practical matter.

1989 PTE Memo (Tab 10) at 4. Accordingly, as a general rule, "a limitation specifically recognized by the regulations as reducing potential to emit is a limitation on production or

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[15] The 1989 PTE Memo was reaffirmed in the agency's 1995 Memorandum, *Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section 112 and Title V of the Clean Air Act (Act)* ("1995 PTE Memo") (Tab 14), 5 ("The EPA has issued several guidance documents explaining the requirements of practicable enforceability (e.g., "Guidance on Limiting Potential to Emit in New Source Permitting," June 13, 1989; memorandum from John Rasnic entitled "Policy Determination on Limiting Potential to Emit for Koch Refining Company's Clean Fuels Project," March 13, 1992)").

[16] United States v. Louisiana-Pacific Corporation, 682 F. Supp. 1122, 1133 (D. Colo. Oct. 30, 1987).

[17] Alabama Power v. Costle, 636 F.2d 323 (D.C. Circuit 1979).

operation." Id. at 9. EPA has recognized that the courts have concluded that "allowing blanket emission limitation[s] to restrict potential to emit would violate the intent of Congress in establishing the Prevention of Significant Deterioration (PSD) program." Id. at 5.[18]

As a threshold matter, EPA explains in its 1989 Memo that "Potential emissions are defined as the product of a source's emission rate at maximum operating capacity, capacity utilization, and hours of operation." 1989 PTE Memo (Tab 10) at 5. EPA specifically identified "capacity utilization" as an indicator of "the manner in which a source is run," including its raw materials, fuel, and any mandatory conditions on the performance of add-on control technologies.[19] Id. EPA explained:

> Production limits are restrictions on the amount of final product which can be manufactured or otherwise produced at a source. Operational limits are all other restrictions on the manner in which a source is run, including hours of operation, amount of raw material consumed, fuel combusted, or conditions which specify that the source must install and maintain add-on controls that operate at a specified emission rate or efficiency. All production and operational limits except for hours of operation are limits on a source's capacity utilization.

Id. at 5. EPA went on to explain:

> To appropriately limit potential to emit consistent with the opinion in Louisiana-Pacific, all PSD permits . . . must contain a production or operational limitation in addition to the emission limitation in cases where the emission limitation does not reflect the maximum emissions of the source operating at full design capacity without pollution control equipment. Restrictions on production or operation that will limit potential to emit include limitations on quantities of raw materials consumed, fuel combusted, hours of operation, or conditions which specify that the source must install and maintain controls that reduce emissions to a specified emission rate or to a specified efficiency level. Production and operational limits must be stated as conditions that can be enforced independently of one another. For example, restrictions on fuel which relates to both type and amount of fuel combusted should state each as an independent condition in the

[18] While the permit at issue here is intended to establish Cliffside Unit 6 as a minor source under section 112, and not the PSD program, the two regulatory programs use the concept of "potential to emit" identically as threshold criteria for program applicability.

[19] A permitting authority may also consider other "inherent limitations" (such as an inability in practice to operate 8760 hours per year), but it may do so only "[w]here such inherent limitations can be documented by a source and confirmed by the permitting agency." 1995 PTE Memo (Tab 14) at 7.

> permit. This is necessary for purposes of practical enforcement so that, if one of the conditions is found to be difficult to monitor for any reason, the other may still be enforced.
>
> When permits contain production or operational limits, they should also have recordkeeping requirements that allow a permitting agency to verify a source's compliance with its limits . . .
>
> When permits require add-on controls operated at a specified efficiency level, permit writers should include, so that the operating efficiency condition is enforceable as a practical matter, those operating parameters and assumptions which the permitting agency depended upon to determine that the control equipment would have a given efficiency.

Id. at 5-7. Thus, as here, where the intent is to restrict through permit conditions the maximum capacity of a source to emit pollutants, and where the calculation of the facility's emissions depends on both the quantity and quality of the fuel and on the efficiency of the emission control devices, a Title V permit ***must*** include express limits on fuel quantity and quality as well as specific and enforceable conditions on the operation of the control equipment to ensure that it achieves the level of emissions reduction necessary to ensure minor source status. Moreover, for any production or operational limits, in order to ensure practical enforceability, "the time over which they extend should be as short term as possible and should generally not exceed one month . . . The requirement for a monthly limit prevents the enforcing agency from having to wait for long periods of time to establish a continuing violation before initiating an enforcement action." Id. at 9. In the absence of such limits, PTE must be calculated assuming "operation at maximum design or achievable capacity (whichever is higher) and continuous operation (8760 hours per year)," id. at 7 – that is, assuming continuous use of the dirtiest available fuel that the source is capable of burning (highest chlorine content and lowest heat value) and the least effective HCl control efficiency possible using any required add-on control technology.

EPA has explained that emission limits may be used to restrict a source's potential to emit only in very limited circumstances. EPA states:

> The particular circumstances of some individual sources make it difficult to state operating parameters for control equipment limits in a manner that is easily enforceable as a practical matter. Therefore, there are ***two exceptions to the absolute prohibition on using blanket emission limits*** to restrict potential to emit. ***If the permitting agency determines that setting operating parameters for control equipment is infeasible*** in a particular situation, a federally enforceable permit containing ***short term emission limits*** (e.g. lbs per hour) would be sufficient to limit potential to emit, *provided that such limits reflect the operation of the control equipment, and the permit* ***includes requirements to install, maintain, and operate a continuous emission monitoring (CEM) system and to retain CEM data,*** and specifies that CEM data may be used to determine compliance with the emission limit.

Id. at 7-8 (emphasis added). Accordingly, to the extent that blanket limits are available at all (they are generally prohibited), they are only available where operational limits are infeasible and where the blanket limits are accompanied by continuous emissions monitoring. Neither of these conditions has been met in this case. It is certainly not infeasible to adopt enforceable operational limits for Cliffside Unit 6. For example, the Modified Draft Title V Renewal Permit could impose limits on the quantity of fuel used at the facility on an annual basis, and limits on the quality of fuel used at the facility (such as chlorine and heat content). Moreover, to the extent that a certain level of control efficiency is necessary to assure minor source status, the Modified Draft Title V Renewal Permit must include specific add-on control parameter monitoring, including but not limited to continuous emissions monitoring of HCl.

Under very similar circumstances, the state of Florida has correctly demanded just such emissions monitoring from one of its utilities.[20] Seminole Electric has proposed a minor source permit for its new Unit 3 in Palatka, Florida. In so doing, it expressed its expectation that its

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[20] See Letter from Florida Department of Environmental Protection to Mike Roddy, Seminole Electric Cooperative (Jan. 16, 2009) ("Florida DEP Letter") (Tab 13).

control equipment could achieve a 99.7% reduction in HCl. In a letter requesting additional information, the Florida Department of Environmental Protection ("DEP") states that "uncontrolled HCl emissions from the coal-fired unit are estimated at nearly 2900 tons per year. Although the combination of proposed control equipment should provide excellent control of HCl emissions, if the actual control efficiency is 99.6% instead of 99.7%, HCl emissions will be 11.6 tons per year and the project will be a major HAP source." Florida DEP Letter (Tab 13) at 1-2. Accordingly, the Florida DEP "intends to require the installation and operation of a CEMS to provide reasonable assurance that HCl emissions do not exceed the major source threshold of 10 tons per year." Id. at 2. In order to demonstrate that the Unit 6 HCl control equipment consistently achieves a 99.9% HCl removal efficiency, the Cliffside Title V Renewal Permit must, at minimum, require installation and operation of an HCl CEMs to ensure ongoing control equipment effectiveness adequate to maintain minor source status. Additionally, as discussed above, the Title V Renewal Permit must also contain restrictions on fuel quantity and/or quality necessary to ensure that Unit 6 remains a minor source.[21]

The Modified Draft Title V Renewal Permit lacks a MACT determination and MACT-based emission limits based on a faulty minor source determination. As a result, Unit 6 remains subject to the major HAP source requirements of CAA § 112(g). Therefore, the Administrator must object to the Modified Draft Title V Renewal Permit because it lacks applicable requirements of CAA § 112.

[21] As Florida DEP acknowledges, "[m]any facilities successfully monitor HCl emissions on a continuous basis." Florida DEP Letter (Tab 13) at 2

D. The Modified Draft Title V Permit's One-Time Stack Test for HCl Emissions Is Inadequate to Assure Compliance

The Modified Draft Title V Renewal Permit violates periodic monitoring requirements and, further, lacks adequate monitoring to assure Unit 6 would limit its annual HAP emissions below the major source thresholds. The only testing required to demonstrate that the annual HAP emissions from Unit 6 will remain below the major source thresholds simply requires a one-time stack test (defined as the average of 3 valid test runs) between 60 and 180 days of start-up. Modified Draft Title V Renewal Permit (Tab 2), Section 13(b), p. 51. If the results of this one-time stack test are above 80% of the emission rates used in Duke's Oct 23, 2008 Corrected Application (i.e., 8.8 tons per year for HCl, and 0.50 tons per year for HF), Duke must perform quarterly stack tests for at least four quarters. Id. The permit does not then state what happens or on what basis Duke can discontinue further stack tests. This monitoring protocol does not meet Title-V "periodic monitoring" requirements. 15A N.C. Admin. Code 02Q .0508(f) (incorporating by reference the periodic monitoring requirements in 40 C.F.R. § 70.6(a)(3)(B)).

Furthermore, the proposed monitoring protocol is not adequate to demonstrate compliance with applicable HAP requirements. 15A N.C. Admin. Code 02Q .0508(b). As more fully discussed elsewhere in this Petition, Petitioners emphatically disagree with the proposition that Cliffside Unit 6 is a minor source of HAPs.[22] Even assuming the validity of this unsupported proposition, however, the proposed monitoring protocol is unlawful because it is not adequate to assure compliance with required emission limitations (i.e., either MACT limits or the

[22] Based on its "potential to emit" HAPs as defined under federal law, there is no doubt Cliffside Unit 6 easily fits the definition of a major HAP source. See 40 C.F.R. § 63.41 (defining "construct a major source"). Notably, Duke has not filed a request to qualify Cliffside Unit 6 as a "synthetic minor source" and the proposed permit revisions do not satisfy synthetic minor source requirements. See United States v. Louisiana-Pacific Corporation, 682 F. Supp. 1122, 1133 (D. Colo. Oct. 30, 1987) (holding "not all federally enforceable restrictions are properly considered in the calculation of a source's potential to emit. While restrictions on hours of operation and on the amount of materials combusted or produced are properly included, blanket restrictions on actual emissions are not.").

major source threshold, as proposed in the Modified Draft Title V Renewal Permit to evade CAA § 112 requirements). Continuous Emission Monitors ("CEMs") exist for HCl emissions and, at the very least, must be required to assure compliance with any emission limitations established for Cliffside Unit 6, regardless of whether DAQ deems Cliffside Unit 6 a minor or major source of HAPs. See 42 U.S.C. § 7661c(c) (requiring all operating permits "shall set forth inspection, entry, monitoring, compliance certification, and reporting to assure compliance with the permit terms and conditions.").

Without controls, Cliffside Unit 6 would emit 8,800 tons of HCl every year. In its Corrected Application Materials, Duke claims, based on the highest level of HCl control ever achieved during a series of short-term stack tests at Marshall Unit 4, that it will achieve 99.9% removal of HCl emissions from Cliffside Unit 6. Aside from the fact that Duke has not demonstrated this level of control in practice under normal operating conditions—and even the Marshall stack test results varied from 99.7% up to 99.9%—minute variations in HCl control efficiency would cause Cliffside Unit 6 to exceed the major source threshold. If Cliffside Unit 6 were able to continuously achieve an HCl control efficiency of 99.8874%, Cliffside Unit 6 would emit 10 tons/year of HCl a year, rendering it a major source. In other words, if the assumed control efficiency of 99.9000% drops to 99.8874% (a difference of only 0.0126), then HCl emissions for Cliffside Unit 6 would equal the major source threshold of 10 tons per year, even assuming all of Duke's unsubstantiated and unenforceable assumptions about the chlorine content and heat content of the coals that Cliffside Unit 6 will burn.

The proposed one-time stack test cannot demonstrate with requisite precision that the extremely high level of HCl control efficiency necessary to support continuous compliance with assumptions on which the Modified Draft Title V Renewal Permit is based; it does not assure

compliance with the assumptions used in Duke's or DAQ's calculations. See, e.g., Letter from Florida Department of Environmental Protection RE: Seminole Generating Station, at 1-2 (Jan. 16, 2009) (Tab 13); EPA Region 8 Objections to Proposed Title V Renewal Operating Permit for Big Stone Power Plant in South Dakota (January 22, 2009) (Tab 35), 10-12. To provide reasonable assurance that HCl emissions from Cliffside Unit 6 do not exceed the 10-tons-per-year major-source threshold, the Modified Draft Title V Renewal Permit must require installation and operation of HCl CEMs. Id. Large industrial sources already successfully use CEMs to monitor HCl emissions on a continuous basis. Id. at 2. Thus, HCl CEMs are available, effective, and necessary to demonstrate the high level of continuous pollution control performance necessary to assure compliance with the emissions limitations in the proposed permit revision.

Furthermore, the Modified Draft Title V Renewal Permit also depends on unsupported and unenforceable assumptions about the chlorine content and heat content of the coal Duke will burn at Cliffside Unit 6. These variables, in conjunction with continuous pollution control efficiency, are critical to Duke's invalid minor source claims. Therefore, for the reasons discussed above, the Modified Draft Title V Renewal Permit must include restrictions on the maximum chlorine content and minimum heat content of the coal burned at Unit 6 and must require routine sampling and reporting of these parameters to assure compliance with the assumptions that underpin Duke's minor source claims.

E. The Administrator Must Object Because Duke's Ongoing Construction of Unit 6 Violates the Clean Air Act.

Under 42 U.S.C. § 7661d(b)(2), the Administrator must object to a Title V permit for any source that is currently violating any applicable Clean Air Act requirement and which lacks a compliance plan and schedule. There is no question that Duke is currently constructing Unit 6 in

violation of the Clean Air Act. First, the ongoing construction of Unit 6 without the required § 112(g) approval is an ongoing violation of the Clean Air Act. As EPA explains with regard to NSR, "Failure by a permitting agency to adhere to these guidelines may result in a permit that does not legally restrict potential to emit, thereby subjecting a source to major new source review. If that source has not gone through preconstruction review, it is a significant violator of the Clean Air Act and is subject to enforcement for constructing or modifying without a major new source permit." 1989 PTE Memo (Tab 10) at 17. In this case, Judge Thornburg has already found that Duke unlawfully commenced construction of Unit 6 without a MACT determination and "is continuing with the construction of Unit 6 without the required § 112 MACT determination. See 42 U.S.C. § 7412(g)(2)(B) . . . . Duke is simply refusing to comply with controlling law." Southern Alliance for Clean Energy v. Duke Energy Carolinas, LLC, No. 1:08CV318, slip op. (Tab 20) at 22 (W.D.N.C. Dec. 2, 2008). Second, Duke's construction and operation permit for Unit 6 expired by its own terms on October 31, 2008 and Duke has not obtained a new permit. As the Clean Air Act does not provide an application shield for preconstruction permits, Duke has unlawfully continued constructing Unit 6 without a permit since October 31, 2008. See, e.g., United States v. Duke Energy Corp., 278 F. Supp. 2d 619, 652 (M.D.N.C. 2003) ("[S]ources that have applied for (but not yet received) Title V permits are generally given temporary protection with the exception of sources that are not in compliance with applicable construction or modification permit requirements.), aff'd on other grounds, 411 F.3d 539 (4th Cir. 2005), vacated and remanded on other grounds sub nom. Envtl. Def. v. Duke Energy Corp., 549 U.S. 561 (2007). Thus, the Administrator must object to the Modified Draft Title V Renewal Permit because Duke's commencement and ongoing construction of Unit 6

violate the Clean Air Act and Duke has not submitted a compliance plan or schedule of compliance.[23]

F. Conclusion

In sum, Cliffside Unit 6 currently is a major source of hazardous air pollution due to its potential to emit HAPs in excess of the major source threshold, and will not become a minor source by virtue of the Modified Draft Title V Renewal Permit. In fact, the Modified Draft Title V Renewal Permit is fatally flawed because it unlawfully uses blanket HAP emissions restrictions to accord Unit 6 minor source status. DAQ should have denied Duke's request to add these restrictions to its air quality permit in lieu of MACT-based HAP emission limits. The only lawful way for Unit 6 to be accorded minor source status is to incorporate the assumptions that Duke uses in its emissions calculations—and which DAQ adopts in the Modified Draft Title V Renewal Permit—into the permit as legally and practicably enforceable permit conditions. However, even if the Modified Draft Title V Renewal Permit were to include permit limits restricting the heat and chlorine content in the coal Unit 6 burned and requiring Duke's claimed HCl and HF removal efficiency, Duke would still not be able to create a system of monitoring sufficiently precise to satisfy the Clean Air Act's requirement that any limitations be practicably

[23] The proposed permit suffers from another fatal flaw. Duke has already begun construction without first having obtained a valid MACT determination, and has already been found in violation of the Act as a result of it construction activity. Thus, it would be inappropriate to allow Duke, by way of remedying its violation, to obtain an after-the-fact waiver of the CAA provision that it has violated. In effect, Duke is offering to accept "voluntary" limits on its emissions to avoid the application of a statutory provision (that requires strict technology-based emission limits for all HAPs) which it has *already violated* by beginning (and continuing) construction without first applying for and receiving an appropriate determination. EPA should not condone this approach. In an enforcement-related guidance document, EPA articulates precisely this position. EPA Memorandum, *Guidance on the Appropriate Injunctive Relief for Violations of Major New Source Review Requirements* (Nov. 17, 1998). This guidance document addresses what EPA should do when faced with NSR violations. Among other things its states: "When the case involves a source that failed to obtain any type of permit or limit at the time of construction, the source should not be allowed to avoid the installation and operation of pollution control equipment or process changes by obtaining a "synthetic" minor limit (usually a permit) after the fact unless compelling circumstances exist." *Id* at 2. No such compelling circumstances in a case such as this, where Duke is "simply refusing to comply with controlling law."

enforceable in order to count towards the major source determination. Moreover, even if these unsupported assumptions could be transformed into practicably enforceable limitations, such conditions would likely be violated, as Dr. Sahu explains, immediately upon implementation. Therefore, Unit 6 is and will remain a major source of hazardous air pollution, and any air quality permit that DAQ issues to Duke for Unit 6 should reflect this reality. Because the Modified Draft Title V Renewal Permit does not, the Administrator must object to it.

II. THE ADMINISTRATOR MUST OBJECT TO THE DRAFT RENEWAL PERMIT BECAUSE IT DOES NOT INCLUDE ALL APPLICABLE PSD REQUIREMENTS

A. The Draft Renewal Permit Must Include PSD Limits.

As discussed above, the Clean Air Act requires that a Title V permit include all applicable emission limitations and standards, including PSD limits. 42 U.S.C. §§ 7661a(a), 7661c(a); LaFleur v. Whitman, 300 F.3d 256, 262 (2d Cir. 2002) ("Although these operating permit programs do not impose new substantive air quality control requirements, the permits themselves must include limitations on emissions and other conditions (such as regular monitoring, record-keeping, and reporting) necessary to ensure compliance with the provisions of the CAA, including the PSD program (if applicable)."). Further, EPA must object to a Title V permit if it finds the permit does not ensure compliance with all applicable requirements including any standard or requirement of the SIP. 42 U.S.C. § 7661d(b); 40 C.F.R. § 70.8(c) and (d); § 70.2.

The PSD preconstruction permitting provisions of the Clean Air Act provide that "[n]o major emitting facility . . . may be constructed . . . unless . . . the facility is subject to the best available control technology for each pollutant subject to regulation under this Act emitted from,

or which results from, such facility." 42 U.S.C. § 7475(a)(4). The North Carolina SIP has a similar provision in 15A N.C. Admin. Code 02D .0530(g).

The Act defines best available control technology, or "BACT," as follows:

> The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant.

42 U.S.C. § 7479(3). EPA's PSD regulations include a substantively identical definition of BACT, 40 C.F.R. § 51.166(b)(12), which is incorporated by reference into the North Carolina PSD SIP, 15A N.C. Admin. Code 02D .0530[24] (incorporating by reference definitions in 40 C.F.R. § 51.166(b)). Thus, the BACT requirement must be implemented and construed under North Carolina law as it is under federal law.

Under 40 C.F.R. § 70.1(b), "[a]ll sources subject to [Title V] regulations shall have a permit to operate that assures compliance by the source with all applicable requirements." Similarly, North Carolina's Title V regulations provide that a Title V permit "shall specify emission limitations and standards, including operational requirements and limitations, that assure compliance with all applicable requirements at the time of permit issuance." 15A N.C. Admin. Code 02Q .0508(b); 40 C.F.R. § 70.6(a)(1). "Applicable requirements" are defined to include, among other things,

> (1) Any standard or other requirement provided for in the applicable implementation plan approved or promulgated by EPA through rulemaking under title I of the Act that implements the relevant requirements of the Act, including any revisions to that plan promulgated in part 52 of this chapter; [and]

[24] EPA last approved North Carolina's PSD regulation on October 15, 1999 (64 Fed.Reg. 55831), which incorporated by reference 15A N.C. Admin. Code 02D .0530 as adopted on November 21, 1996.

> (2) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D, of the Act . . . .

40 C.F.R. § 70.2; accord 15A N.C. Admin. Code 02Q .0103(5) (using slightly different language).

As discussed above, "the Title V operating permit program does not supplant the PSD program. Title V does not establish additional substantive requirements, but merely brings together applicable requirements, such as the PSD provisions, into one permitting scheme." United States v. Duke Energy Corp., 278 F. Supp. 2d 619, 651-52 (M.D.N.C. 2003) (citing 57 Fed. Reg. 32,250, 32,251 (July 21, 1992)), aff'd on other grounds, 411 F.3d 539 (4th Cir. 2005), vacated and remanded on other grounds sub nom. Envtl. Def. v. Duke Energy Corp., 549 U.S. 561 (2007). As the district court in the Duke Energy case explained,

> Title V explicitly states that compliance with a Title V permit is not "deemed compliance with other applicable provisions" of the Act unless a permit explicitly incorporates those other provisions or those provisions have been formally determined to be inapplicable. 42 U.S.C. § 7661c(f) (1995). Furthermore, Title V states that "nothing in this subsection shall be construed to alter the applicable requirements ... that a permit be obtained before construction or modification." Id. § 7661a(a). In fact, sources that have applied for (but not yet received) Title V permits are generally given temporary protection ***with the exception of sources that are not in compliance with applicable construction or modification permit requirements.*** Id. § 7661b(d).

Duke Energy Corp., 278 F. Supp. 2d at 652 (emphasis added).

Similarly, in United States v. E. Ky. Power Coop., Inc., also an EPA enforcement action, the court denied the defendant utility's motion for summary judgment with respect to EPA's claims that the utility violated Title V by operating with a "deficient" Title V permit. EPA argued that the utility's Title V permit applications were not complete because they did not identify all "applicable requirements"—specifically, PSD and NSPS requirements. The court

held that where "the PSD and NSPS requirements are not included or specifically identified in the Title V permits," the Title V permit shield provided no protection. United States v. E. Ky. Power Coop., Inc., 498 F. Supp. 2d 1010, 1018 (E.D. Ky. 2007). In fact, the federal regulations expressly state that "[n]othing . . . [in the Title V permitting program] shall alter or affect . . . [t]he liability of an owner . . . for any violation of applicable requirements prior to or at the time of permit issuance . . . ." 40 C.F.R. § 70.6(f)(3)(ii). Likewise, under state Title V permitting regulations, "[t]he submittal of a complete permit application shall not affect the requirement that any facility have a preconstruction permit under 15A N.C. Admin. Code 02D .0530 . . . ." 15A N.C. Admin. Code 02Q .0507(h).

EPA orders responding to citizen petitions to object to issuance of Title V permits also confirm that the Title V permitting process is a proper forum for the public to challenge PSD applicability determinations and BACT determinations (or lack thereof). For example, in In the Matter of Monroe Electric Generating Plant, Entergy Louisiana, Inc. Proposed Operating Permit, Order Partially Granting and Partially Denying Petition for Objection to Permit (Adm'r 1999) (citations omitted) (Tab 4 Att. 6), a citizen group petitioned EPA to object to a permit based on, among other things, the permitting authority's failure to subject the plant to PSD review and to include applicable PSD provisions in the Title V permit. As the EPA Administrator explained:

> The title V operating permits program is a vehicle for ensuring that existing air quality control requirements are appropriately applied to facility emission units in a single document and that compliance with these applicable requirements is assured. ... Such applicable requirements include the requirement to obtain preconstruction permits that comply with applicable new source review requirements.

Id. at 2. EPA concluded that, because the permitting authority had failed to subject the plant to PSD requirements even though it had undergone a major modification, the permit failed to assure

compliance with all applicable requirements, id. at 6, and objected to the permit on that basis, id. at 27.

In addition, EPA has issued guidance on issues relating to the interface between Title V and the NSR provisions of the Act, including what it called the NSR/BACT/LAER "lookback" issue. EPA explained:

> Pursuant to EPA policy, the Agency generally will not object to the issuance of a title V permit due to concerns over BACT, LAER, or related determinations made long ago during a prior preconstruction permitting process. However, ***regarding recently issued NSR/PSD permits, note that EPA policy is to provide adverse comments concerning the substantive or procedural deficiencies of a preconstruction permit during the NSR/PSD permitting process.*** EPA may thereafter take corrective action, including objecting to the title V permit if its comments were not resolved by the State. Similarly, where the BACT/LAER determination is made during a concurrent or "merged" preconstruction permit and title V permit process, EPA may object to the title V permit due to an improper determination. Finally, the Agency may object to or reopen a title V permit in response to a public petition showing that title I preconstruction permitting requirements have not been met.
>
> ***Moreover, where EPA believes that an emission unit has not gone through the proper preconstruction permitting process (and therefore one or more applicable requirements are not incorporated in the draft or proposed title V permit), EPA may object to the title V permit.*** The permitting authority may then resolve the issue either by demonstrating to EPA's satisfaction that preconstruction permitting requirements were not applicable or by incorporating a schedule requiring the source to obtain a preconstruction permit.

Letter from John Seitz, EPA OAQPS, to Robert Hodanbosi and Charles Lagges, STAPPA/ALAPCO, Enclosure A at 2-3 (May 20, 1999) (emphasis added) (Tab 4 Att. 7 Encl. A).

B. DAQ Has Improperly Determined PSD Applicability for the NO_x and SO_2 Emissions at Cliffside Unit 6.

The Draft Title V Renewal Permit[25] allows Unit 6 to avoid PSD review for sulfur dioxide (SO_2) and nitrogen oxides (NO_x). See Tab 1, Section 2.2.C.1.a. at 75. To net out of PSD applicability for SO_2 and NO_x, Duke availed itself of 15A N.C. Admin. Code 02Q .0317, which allows the owner or operator of a facility to request terms and conditions to be included in a permit to avoid applicability of, among other things, the PSD permitting requirements in 15A N.C. Admin. Code 02D .0530. Duke had requested terms and conditions to avoid PSD review for SO_2 and NO_x in its PSD permit application for Cliffside Unit 6. On August 14 2007, DAQ issued the draft Unit 6 construction permit that allowed Unit 6 to net out of PSD review for SO_2 and NO_x. DAQ's Preliminary Determination for that permit stated:

> Duke is netting out of NOx and SO_2 by retiring Units 1-4 and adding a FGD scrubber on Unit 5; therefore emissions of NOx and SO_2 are not subject to PSD review since there will not be a significant net emissions increase in these pollutants as allowed by 40 CFR 51.166(b)(3).

August 14, 2007 Preliminary Determination for Cliffside Unit 6 (Tab 36) at 11.

The final Unit 6 construction permit, which DAQ issued on January 29, 2008, allowed Unit 6 to avoid PSD review for SO_2 and NO_x, and these conditions have been included in the Draft Title V Renewal Permit. Specifically, the Draft Title V Renewal Permit states:

> i. Units 1-4 (ID Nos. ES-1, ES-2, ES-3 and ES-4) and the associated auxiliary boiler (ID No. ES-7) shall be shutdown and the Unit 5 wet flue gas desulfurization system (ID No. CD-33) shall be operational consistent with PSD regulations with regard to netting prior to startup of the new boiler (Unit 6).

[25] In the previous section of this Petition addressing the lack of a MACT determination and MACT-based emission limits, Petitioners at times distinguished between the Draft Title V Renewal Permit and the Modified Draft Title V Renewal Permit. Petitioners make no such distinction in the remainder of this Petition. The Modified Draft Title V Renewal Permit differs from the Draft Title V Renewal Permit only to the extent the modified draft permit adds blanket HAP emission limits and a one-time, or limited duration, stack test requirement for selected Unit 6 HAPs. Otherwise, the two draft permits are substantively identical. Therefore, all objections Petitioners raise concerning the Draft Title V Renewal Permit also apply to the Modified Draft Title V Renewal Permit.

ii. Unit 5 (ID No. ES-5) shall not discharge into the atmosphere more than 2,**465 tons per year** of nitrogen oxides on a rolling consecutive 12-month period basis.

iii. Unit 5 and 6 (ID Nos. ES-5 and ES-6) shall not discharge into the atmosphere more than **6,370 tons per year** of nitrogen oxides on a rolling consecutive 12-month period basis.

iv. Units 5 and 6 (ID Nos. ES-5 and ES-6) shall not discharge into the atmosphere more than **25,185 tons per year** of sulfur dioxide on a rolling consecutive 12-month period basis.

Draft Title V Renewal Permit (Tab 1), Section 2.2.C.1.a. at 75. These permit conditions fail to properly ensure that Unit 6 will not result in a significant net emissions increase of SO_2 and NO_x.

Petitioners provided comments to DAQ identifying several deficiencies regarding its PSD applicability analysis for SO_2 and NO_x emitted by Unit 6. See October 30, 2008 Comments (Tab 3) at Section IV. Petitioners' comments were based on the North Carolina PSD regulations that were in effect on May 1, 2008. EPA proposed to approve those regulations as part of the SIP on September 9, 2008 (73 Fed.Reg. 52,226). Because EPA has not yet finalized approval of North Carolina's 2008 PSD regulations, what follows is an analysis of PSD applicability for the SO_2 and NO_x to be emitted by Unit 6 based on (i) North Carolina's PSD SIP rules that are currently approved;[26] and (ii) North Carolina's 2008 PSD regulations that EPA proposed to approve as part of the SIP in September 2008. Under either set of rules, DAQ has failed to conduct a proper PSD applicability analysis for SO_2 and NO_x at Unit 6. Cliffside Unit 6 is, in fact, a major modification that will result in a significant net increase in SO_2 and NO_x emissions. As a result, DAQ should have subjected Unit 6 to all PSD requirements, including application of best available control technology. DAQ failed to do so based on its improper and illegal PSD

[26] The U.S. Supreme Court in General Motors Corp. v. United States, 496 U.S. 530, 540, 110 S. Ct. 2528, 2534 110 L.Ed.2d 480 (1990), held that "[b]oth this Court and the Courts of Appeals have recognized that the approved SIP is the applicable implementation plan during the time a SIP revision proposal is pending," citing Train v. Natural Resources Defense Council, Inc., 421 U.S. 60, 92, 95 S.Ct. 1470, 1488, 43 L.Ed.2d 731 (1975); United States v. Alcan Foil Products Division of Alcan Aluminum Corp., 889 F.2d 1513, 1519 (6th Cir. 1989), cert. pending, No. 89-1104; United States v. Wheeling-Pittsburgh Steel Corp., 818 F.2d 1077, 1084 (3d Cir. 1987); Duquesne Light Co. v. EPA, 225 U.S.App.D.C. 290, 305, 698 F.2d 456, 471 (1983).

applicability determination. Therefore, Petitioners urge EPA to object to the Draft Title V Renewal Permit because it is based on an improper PSD applicability analysis for SO2 and NOx at Unit 6 and because it fails to include all applicable PSD requirements including BACT for SO2 and NOx to be emitted by Unit 6.

1. PSD Applicability Under the EPA-Approved North Carolina SIP.

EPA last approved revisions to the North Carolina PSD SIP in 1999. 64 Fed. Reg. 55831 (October 15, 1999); 40 C.F.R. § 52.1770(c). The SIP-approved North Carolina PSD regulations, 15A N.C. Admin. Code 02D .0530, essentially incorporated by reference the federal PSD regulations in 40 C.F.R. § 51.166 as amended on March 15, 1996. See 15A N.C. Admin. Code 02D .0530(a) of the EPA-approved North Carolina SIP. This regulation is part of the currently applicable requirements with which the Cliffside Title V permit must comply.[27]

Under the current SIP, a modification to an existing major source, such as Cliffside, is a major modification if it would result in a significant net emissions increase of a pollutant. See 40 C.F.R. § 51.166(b)(2), (3), and (23) (1996). "Net emissions increase" is defined in part as:

> [T]he amount by which the sum of the following exceeds zero: (a) [t]he increase in ***actual emissions*** from a ***particular physical change or change in the method of operation*** at a stationary source...; and (b) [a]ny other increases and decreases in ***actual emissions*** at the major stationary source that are contemporaneous with the ***particular change*** and are otherwise creditable.

40 C.F.R. § 51.166(b)(3)(i) (1996) (emphasis added). The contemporaneous period is defined under the North Carolina SIP as seven years from the date the increase from the particular change occurs. 15A N.C. Admin. Code 02D .0530(b); 40 C.F.R. § 51.166(b)(3)(ii).

The key analysis under the definition of "net emissions increase" is whether the particular "change" will lead to an increase in "actual emissions." "Actual emissions" are defined in the

[27] For the purpose of this discussion, Petitioners refer to the federal PSD regulations in 40 C.F.R. § 51.166 (1996) unless 15A N.C. Admin. Code.02D .0530 modified the federal PSD provision at issue.

SIP as the average rate in tons per year at which the unit actually emitted the pollutant during the previous two-year period. The permitting agency may use a different time period if it is determined that the different period is more representative of normal source operation for the source. For a new emissions unit, actual emissions equal the potential to emit of the new unit. See 40 C.F.R § 51.166(b)(21)(ii) and (iv) (1996). Potential to emit, as defined in the North Carolina SIP, is based on the maximum capacity to emit a pollutant, and any limitations on emissions must be federally enforceable to be considered as limiting potential to emit. 40 C.F.R § 51.166(b)(4) (1996). Determinations of creditable emissions increases and decreases must be made on a unit-by-unit basis.

To be creditable for netting purposes under the current SIP, an emissions decrease must, among other things, meet the following requirements:

1) the old level of actual or allowable emissions, whichever is lower, exceeds the new level of actual emissions,

2) it is federally enforceable at and after the time that actual construction begins on the modification, and

3) it has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the modification.

40 C.F.R. § 51.166(b)(3)(vi) (1996). See also 40 C.F.R. § 51.166(b)(3)(iii) – (v) (1996).

2. PSD Applicability Under the North Carolina PSD Rules that EPA Proposed to Approve as Part of the North Carolina SIP in September 2008.

As stated above, EPA proposed to approve revisions to the North Carolina PSD rules as part of the SIP in September 2008, but EPA has not yet taken final action on those rule changes. 73 Fed.Reg.52,226. The state rule revisions were effective in North Carolina on May 1, 2008.[28] While the 2008 North Carolina PSD rules have not yet become an applicable requirement under

[28] June 20, 2008 SIP Submittal from NCDENR to EPA. See Document ID EPA-R04-OAR-2005-0534-0009 in the docket for EPA's proposed North Carolina PSD SIP approval at www.regulations.gov.

40 C.F.R. § 70.2, Petitioners are providing a separate review of applicability of the State's 2008 PSD regulations to Cliffside Unit 6, in case EPA finalizes approval of those rules before acting on this petition. Petitioners based their comments to DAQ on the Draft Title V Renewal Permit on the State's 2008 PSD rules.

There are several PSD rule changes in EPA's proposed North Carolina SIP approval that are relevant to determining PSD applicability for a modification such as Unit 6. The 2008 North Carolina PSD regulations incorporate by reference the federal PSD regulations in 40 C.F.R. § 51.166 as amended June 13, 2007, with some changes. 15A N.C. Admin. Code 02D .0530(v)[29]. For purposes of this discussion, Petitioners refer to the federal PSD rules unless modified by 15A N.C. Admin. Code 02D .0530.

One important difference between the current SIP rules and the rules that EPA recently proposed to approve is that, in determining creditable emissions increases and decreases for evaluating the net emissions increase of a particular pollutant, the proposed SIP rules compare emissions changes against "baseline actual emissions." 15A N.C. Admin. Code 02D .0530(b); 40 C.F.R. § 51.166(b)(3)(i)(b) (2007). For any existing emissions unit, baseline actual emissions are defined as the average rate in tons per year at which the unit emitted the pollutant during any consecutive 24-month period in the five years prior to submittal of a complete PSD permit application. 15A N.C. Admin. Code 02D. 0530(b)(1)(A) (2008). DAQ may allow the source to choose a different "look-back" period as long as ten years from the submittal of a complete PSD permit application only if the source owner or operator demonstrates that the different period is more representative of normal source operation. Id. The average rate of emissions must be adjusted downward to exclude any non-compliant emissions. 15A N.C. Admin. Code 02D.

[29] See 2008 version of 15A N.C. Admin.Code 02D .0530 submitted to EPA for approval on June 30, 2008, and in docket for EPA's September 9, 2008 proposed SIP approval at document number EPA-R04-OAR-2005-0534-0009.

0530(b)(1)(A)(ii) (2008). Also, when a project includes multiple emission units, the same 24-month period must be used for all units, although a different time period can be used for different pollutants. 15A N.C. Admin. Code 02D. 0530(b)(1)(A)(v) (2008). Further, for an EGU, the average rate must be adjusted downward to reflect emissions reductions required by North Carolina's Clean Smokestack Act for which cost recovery is requested under North Carolina law N.C. Gen. Stat. § 62-133.6. 15A N.C. Admin. Code 02D. 0530(b)(1)(A)(iv) (2008).

Another relevant difference between the current SIP and the 2008 North Carolina PSD regulations is that the 2008 rules require that, to be creditable for netting purposes, emission reductions must be enforceable as a practical matter (as compared to federally enforceable) at and after the time that construction commences on a particular physical change or change in the method of operation. 40 C.F.R. § 51.166(b)(3)(vi)(b) (2007).

The 2007 federal PSD rules incorporated into the 2008 North Carolina PSD regulation also now specify that, for a project to be considered a major modification, it must result in both a significant emission increase and a significant net emissions increase of a pollutant. The procedures for determining whether a significant emissions increase will occur are spelled out in 40 C.F.R. § 51.166(a)(7)(iv). For a project such as the addition of new Cliffside Unit 6, the emission increase from the project is based solely on the potential to emit of the new emissions units even if other units at the facility will concurrently be reducing emissions.[30] Potential to emit is defined in 40 C.F.R. § 51.166(b)(4), as incorporated into North Carolina rules, as being limited only by requirements that are federally enforceable.

[30] The determination of whether a project will result in a significant emissions increase of a pollutant is only based on emission increases due to the project, calculated in accordance with the applicability procedures in 40 C.F.R. § 51.166(a)(7)(iv). Emission reductions at existing units within the same source can only be taken into account in determining the net emissions increase due to a project. See 74 Fed.Reg. 2,381 (Jan. 15, 2009); 71 Fed.Reg. 54,249 (Sept. 14, 2006).

Whether one considers the SIP-approved North Carolina PSD regulations or the 2008 North Carolina PSD rules that EPA has proposed to approve, DAQ improperly determined Cliffside Unit 6 was not subject to PSD for SO_2 and NO_x. DAQ's PSD applicability determination is illegal for several reasons as discussed below. Based on the following reasons, the Administrator must object to the Draft Title V Renewal Permit.

3. Because Cliffside Units 1-5 Are Operating and Emitting Illegally, DAQ Erred in Allowing Duke to Use Emissions Reductions at Those Units for Netting Purposes.

Between 1988 and 2000, Duke illegally replaced or redesigned major components of many of its older coal-fired units in the Carolinas, including Cliffside Units 1-5, in order to extend the life of the units and allow them to run at a higher capacity factor (i.e., the amount of actual electricity production as compared to maximum potential production levels).[31] Despite the fact that these projects constituted major modifications, Duke did not obtain PSD permits or install required pollution controls for the projects. Because the excess emissions at Units 1-5 are unlawful, emissions reductions at those units are not creditable and may not be used to allow the new Unit 6 to "net out" of PSD applicability for SO_2 and NO_x.

On May 9, 2000, EPA issued a Notice of Violation for these illegal modifications at Cliffside, as well as for violations at several other Duke plants. See U.S. EPA Region 4, In the Matter of: Duke Energy Company, Inc., Proceedings Pursuant to Section 133(a)(1) of the Clean Air Act, 42 U.S.C. § 7413(a)(1), Notice of Violation CAA-04-2000-0053 (May 9, 2000) ("the NOV") (Tab 4 Att. 4). The NOV is EPA's official finding that Duke is in violation of PSD preconstruction permitting requirements. 42 U.S.C. § 7413(a)(5). In the NOV, EPA explicitly found that the projects at Units 1-5 were major modifications undertaken without the required

[31] For a detailed description of the history of illegal modifications at Cliffside Units 1-5, see Petitioners' Written Comments of October 30, 2008 (Tab 3), pp. 5-8.

preconstruction permits and, therefore, that Duke violated (and continues to violate) the Clean Air Act. EPA concluded that none of Duke's modifications fell within the "routine maintenance, repair and replacement" exemption from PSD requirements and found that each of the modifications resulted in a net significant increase in emissions. Tab 4 Att. 4 at 12-13.

In 2000, EPA brought an enforcement action against Duke Energy for the PSD violations at Cliffside and other plants in a case filed in the U.S. District Court for the Middle District of North Carolina and captioned as U.S. v. Duke Energy Corp. Duke defended against the enforcement action by arguing, among other things, that none of the changes was a "major modification" requiring a PSD permit because the changes did not result in an increase in the maximum hourly emission rate. On writ of certiorari from appeal of the district court and appeals court rulings in Duke's favor, the U.S. Supreme Court rejected Duke's argument and held that the clear language of the PSD regulations calls for PSD applicability to be based on an annual, not hourly, emissions rate. Envtl. Def. v. Duke Energy Corp., 127 S. Ct. 1423, 1436 (2007). The Supreme Court remanded the case and the enforcement action remains pending before the district court.

EPA's NOV and ongoing enforcement action against Duke for PSD violations demonstrate that the five existing units at Cliffside have been operating, and continue to operate, illegally without the required PSD permits and without meeting BACT pollution reduction requirements for SO_2 and NO_x. N.Y. Public Interest Research Group v. Johnson, 427 F.3d 172, 181 (2d Cir. 2005). In N.Y. PIRG, the state permitting agency had issued NOVs against the electric utility for illegal modifications at two of its plants. The plaintiff challenged EPA's failure to object to Title V operating permits issued to an electric utility by the state permitting agency. EPA argued that the permits could issue without PSD limits subject to later amendment

depending on the outcome of the enforcement action, and EPA was not required to object to the permits. The court disagreed, reasoning that the Act and applicable regulations governing issuance of an NOV required a *finding* of violation—not merely allegations—and held that the issuance of the NOVs was a sufficient demonstration of noncompliance to trigger an EPA objection to the permits. Id.[32] Further, the court rejected EPA's contention that it was "premature to include PSD limits in a permit before they are determined by the permitting authority to be applicable." Id. The court found "[i]t is not premature, precisely because we believe that the [state permitting agency], in issuing the NOVs and filing suit, has determined that these standards are, indeed, applicable." Id.

Cliffside Units 1 – 5 are not in compliance with all applicable requirements—in fact, the units continue to violate PSD requirements with every day of operation. Accordingly, it is entirely inappropriate and unlawful for DAQ to now propose to issue a permit allowing Duke to "net out" the new Unit 6 of PSD review for SO_2 and NO_x by taking credit for SO_2 and NO_x emission reductions at the existing units. The existing units have been operating for years without the proper PSD permits and without meeting BACT for NO_x and SO_2. By all rights, these units were not properly authorized to be modified and are not authorized to operate. Thus, the allowable emissions for these units should be considered to be zero and no creditable emissions reductions are available to "net out" the new unit from PSD applicability.[33]

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[32] Petitioners acknowledge the recent case of Sierra Club v. Johnson, 541 F.3d 1257 (11th Cir. 2008), in which the court held, on facts similar to those in NYPIRG v. Johnson, that EPA had discretion not to object to a Title V permit. Neither case is controlling in North Carolina, but because the court in NYPIRG v. Johnson articulated a more well-reasoned, persuasive analysis, it should be followed here.

[33] Alternatively, only emissions reductions below BACT levels at Units 1-5 should be considered creditable because emissions of NO_x and SO_2 at those units exceed legally enforceable emission limits and the definition of "baseline actual emissions" excludes any non-compliant emissions in excess of a "legally enforceable" limit. If Duke had obtained the proper PSD permits for Units 1-5 at the time of the illegal modifications, BACT for SO_2 and NO_x would have applied to each of the units. BACT limits are "legally enforceable" emissions limits immediately upon a PSD violation (such as the illegal modifications at Cliffside Units 1-5), even though the limit has not been defined in a permit. New York v. Niagara Mohawk Power Corp., 263 F. Supp. 2d 650, 665 n. 25 (W.D.N.Y. 2003) ("despite

Consequently, without any creditable emission decreases from the existing Cliffside units, the new Unit 6 must be considered a major modification for SO_2 and NO_x, in addition to all of the other pollutants to be emitted by the unit, because there would be a significant emissions increase and a significant net emissions increase of SO_2 and NO_x.

4. The Draft Permit's Reopen and Revise Clause Does Not Cure Its Failure to Include Applicable PSD Requirements

The Draft Title V Renewal Permit contains a provision allowing DAQ to "reopen and revise" the Permit "to include additional requirements necessary to conform the permit to the terms of any settlement or final judgment in the federal enforcement action U.S. v. Duke Energy, Civil Action No. 1:00 CV 1262." Draft Title V Renewal Permit (Tab 1), Condition 2.4.b., p. 76. This condition, to the extent it purports to "cure" the failure to include all applicable requirements, completely ignores the "preconstruction" nature of the PSD requirements. Congress mandated that owners and operators of a major source or modification obtain a PSD permit ***before*** beginning construction because the BACT analysis and resulting BACT emission limits can determine important elements of facility design and construction. The preconstruction permitting section of the Act, 42 U.S.C. § 7475, "[b]y its plain terms . . . governs the conditions under which a major emitting facility 'may be constructed.' Thus, these requirements must be fulfilled ***prior*** to construction." New York v. Niagara Mohawk Power Corp., 263 F. Supp. 2d 650, 657 (W.D.N.Y. 2003) (emphasis added). Accord Nat'l Parks Conservation Ass'n v. TVA, 480 F.3d 410, 412 (6th Cir. 2007) ("Because a key purpose of PSD is 'to assure that any decision to permit increased air pollution . . . is made only after careful evaluation of all the consequences of such a decision,' [42 U.S.C.] § 7470(5), polluters 'are required to limit emissions to a

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the fact that the permitting authority has not yet determined BACT for the Facilities (due to [the utility company's] failure to comply with 42 U.S.C. § 7475(a)), the requirement that a facility be subject to BACT before construction or modification remains.") For a more detailed discussion of Niagara Mohawk, see Petitioners' Written Comments (October 30, 2008) (Tab 3), pp. 16-17.

"baseline rate" and [to] obtain a permit ***before*** constructing or modifying facilities.'") (emphasis added).

As one court has explained,

> It would be both bad law and bad public policy to intentionally require or even allow construction before determining whether the modification was permissible under the Clean Air Act. For these reasons . . . the law does not permit an after-the-fact analysis of the effect of a plant modification, which otherwise was required by law to obtain a pre-construction permit.

United States v. Ohio Edison Co., 276 F. Supp. 2d 829, 864-865 (S.D. Ohio 2003) (holding that the determination of whether a given project will cause a significant net pollution increase requires a ***pre-construction*** determination as to the additional pollutants projected to be emitted as a result of the proposed physical change).

A properly conducted PSD review for SO_2 and NO_x, including a BACT analysis, increment consumption analysis and review of Class I areas impacts, could result in material changes in the design and construction of Unit 6, or could even result in a finding that Unit 6 could not be permitted because of unacceptable impacts on Class I areas such as Great Smoky Mountains National Park. By the time the enforcement litigation is resolved, however, Duke may have completed construction on major portions of the new unit. Even if DAQ does re-open the Permit, a partially completed Unit 6 on the ground and several million dollars in sunk capital costs are likely to prejudice the PSD review in favor of the status quo and away from more stringent BACT limits or a finding that the NO_x and/or SO_2 emissions from the plant would cause adverse impacts on Class I areas. See Calvert Cliffs' Coordinating Comm., Inc. v. U.S. Atomic Energy Comm'n, 449 F.2d 1109, 1128 (D.C. Cir. 1971) (noting that if the agency waited to apply newly-passed environmental protection requirements until plants then under construction had been completed, "[e]ither the licensee will have to undergo a major expense in

making alterations in a completed facility or the environmental harm will have to be tolerated" and "[i]t is all too probable that the latter result would come to pass"); Md. Conservation Council v. Gilchrist, 808 F.2d 1039, 1042 (4th Cir. 1986) (enjoining construction of highway where decision-makers "would inevitably be influenced if the County were allowed to construct major segments of the highway" before judging compliance with the National Environmental Policy Act). This is exactly why PSD is a *pre*-construction permitting program.

The law is clear: the preconstruction permit review process—including the PSD requirement to conduct a full BACT analysis—must occur prior to construction. Because the Draft Title V Renewal Permit fails to include BACT limits for SO_2 and NO_x, it is unlawful and the Administrator must object.

5. Even When the PSD Violations at Cliffside Units 1-5 Are Ignored, There Will Be a Significant Net Emissions Increase of SO_2 and NO_x at Cliffside As Determined Under the Current EPA-Approved North Carolina SIP.

Cliffside Unit 6 and ancillary equipment at the Cliffside facility are a major modification producing significant net emission increases of SO_2 and NO_x under the PSD regulations currently approved by EPA as part of the North Carolina SIP. That is because the new unit 6 and associated equipment will have a net emissions increase of both SO_2 and NO_x equal to or greater than the SO_2 and NO_x PSD significance levels of 40 tons per year (tpy) each, as demonstrated below. See 40 C.F.R. §51.166(b)(2) and (b)(23) (1996).[34]

The first step in determining the net emissions increase of SO_2 and NO_x from the addition of new Unit 6 is to determine the increase in actual emissions due to the physical change at Cliffside, which is based on the potential to emit of the new unit. 40 C.F.R. §§ 51.166(b)(3)(a) and (b)(21)(iv) (1996). Under the Draft Title V Renewal Permit, the only restrictions on SO_2

[34] For the purposes of this discussion, Petitioners cite to the regulations at 40 C.F.R. § 51.166 as in effect on March 15, 1996, which are incorporated into the North Carolina SIP-approved PSD regulations of 15A N.C. Admin.Code 02D .0530, when referencing the currently approved North Carolina SIP requirements.

and NO_x emissions from Unit 6 that would be federally enforceable are the NSPS requirements in Section 2.1.J. of the permit (at page 39). The limits are 1.4 pounds of SO_2 per gross megawatt-hour (lb/MWh gross) and 1.0 lb NO_x/MWh gross. Id. See also 40 C.F.R. §§ 60.43Da(i) and 60.44Da(e).. As discussed in Petitioners' October 31, 2007 letter to DAQ (Tab 4 Att. 14) at 18, these emission limits are equivalent to at least 0.15 lb/MMBtu SO_2 and 0.10 lb/MMBtu NO_x.[35] The Draft Title V Renewal Permit indicates that the heat input capacity of the new Unit 6 boiler is 7,850 MMBtu/hr. These requirements do not truly limit potential to emit of Unit 6 because the NSPS emission limits do not apply during startup and shutdown and because it is not clear that the boiler description in the Draft Title V Renewal Permit serves as an enforceable limitation on the heat input capacity of the new Unit 6 boiler. Nevertheless, for the purposes of this analysis, Petitioners will assume that these requirements would effectively limit potential to emit SO_2 and NO_x from the new Unit 6 at Cliffside. Thus, the potential to emit SO_2 and NO_x of the new Unit 6 boiler would be calculated as follows:

SO_2: 0.15 lb/MMBtu x 7,850 MMBtu/hr x 8,760 hrs/year x 1 ton/2000 lb

= 5,157.5 tpy

NO_x: 0.10 lb/MMBtu x 7,850 MMBtu/hr x 8,760 hrs/year x 1 ton/2000 lb

= 3,438.3 tpy

Clearly, these potential emission increases well exceed each of the 40 tpy SO_2 and NO_x significance thresholds. See 40 C.F.R. § 51.166(b)(23)(i) (1996).

[35] The lb/MWh emission rates were converted to lb/MMBtu heat input emission rates by applying a conversion factor of 3.414 Btus per Watt-hour and an expected thermal efficiency of the new Unit 6 boiler being 36%. This is the gross thermal efficiency EPA relied on in setting the current NSPS emission limits. See 70 Fed.Reg. 9,714 (Feb. 28, 2005). However, as acknowledged by EPA in its proposed NSPS rulemaking, it is likely that new supercritical boilers such as Unit 6 will have a higher thermal efficiency, which would allow the unit to emit at higher SO_2 and NO_x emission rates than the calculated emission rates based on 36% thermal efficiency. If so, then the NSPS limits would allow even higher emission rates of SO_2 and NO_x in terms of lb/MMBtu heat input.

The Draft Title V Renewal Permit also includes a limit on Cliffside Units 5 and 6 of 6,370 tpy of NO_x and 25,185 tpy of SO_2 that both apply on a rolling consecutive 12-month-period basis. (Tab 1, Section 2.2.C.1.a. at page 75). However, these emission caps over Cliffside Units 5 and 6 do not limit the potential to emit of new Unit 6 to anything less than 6,370 tpy of NO_x and 25,185 tpy of SO_2. In addition, the permit includes State-only enforceable emission limitations on Cliffside Unit 6 of 0.12 lb/MMBtu for SO_2 and 0.07 lb/MMBtu (excluding startup and shutdown) for NO_x. (Section 2.1.J.11.at page 50). Because these are State-only limits, they cannot be considered in limiting potential to emit of Cliffside Unit 6 under the SIP-approved PSD rules.[36]

The other new emission units associated with new Unit 6 that will emit SO_2 and NO_x are the auxiliary boiler (emission unit ES-AUX6), the emergency generator (emission unit ES-CT1), and the emergency firewater pump (ES-FWP). The calculations of potential to emit SO_2 and NO_x of these units is provided in Attachment 14 to Petitioners' October 30, 2008 comment letter, at pages 21-22 (Tab 4 Att. 14).

Thus, for the addition of the new Unit 6 and associated emission units at Cliffside, the total emission increases of NO_x and SO_2 (based on the potential to emit (PTE) of these units because all would be new emission units) at the Cliffside Steam Station would be:

[36] As EPA stated in a 1996 policy statement, the Chemical Manufacturers Ass'n Court decision (Chemical Manufacturers Ass'n v. EPA, No.89-1514 (D.C. Cir. Sept. 15, 1995)) did not vacate federal enforceability requirements in SIPs. See January 22, 1996 EPA Memo from John Seitz with Subject "Release of Interim Policy on Federal Enforceability of Limitations on Potential to Emit." (Tab 30).

Table 1: Potential to Emit NOx and SO2 of New Cliffside Unit 6 and Associated Equipment under the North Carolina PSD SIP.

Emission Unit Associated With New Unit 6	NO_x PTE (tpy)	SO_2 PTE (tpy)
Unit 6 Boiler	3,483.3 tpy	5,175.5 tpy
Auxiliary Boiler	8.32 tpy	4.3 tpy
Emergency Generator	1.24 tpy	1.9 tpy
Emergency Firewater Pump	0.14 tpy	0.35 tpy
Total	**3,493.0 tpy**	**5,182.05 tpy**

To determine the emission reductions that are creditable under the currently-approved North Carolina SIP, the actual emissions of the existing Cliffside units must be determined. In accordance with the definition of "actual emissions" at 40 C.F.R. § 51.166(b)(21)(ii) (1996), actual emissions for the existing units should be based on the 2 years preceding Duke's submittal of a permit application for the new Unit 6 at Cliffside. DAQ stated in its August 2007 Preconstruction Review for Cliffside Unit 6 that the application for Cliffside Unit 6 was complete pursuant to 40 C.F.R. § 51.166(q)(1) and 15A N.C. Admin. Code 02D .0530(o) on July 6, 2007.[37] Thus, actual SO_2 and NO_x emissions of the existing units should be based on the average of 2005-2006 emissions from the existing Cliffside units. Based on data available on EPA's Clean Air Markets Database, the average SO_2 and NO_x emissions for the Cliffside facility over 2005-2006 are as follows:

[37] See August 2007 DAQ Preconstruction Review (Tab 36) at 1, fn. 1.

Table 2: Actual Emissions of Existing Cliffside Units Prior to Unit 6 Permit Application, as Determined under Current North Carolina PSD SIP.

Cliffside Unit No.	2005 SO2 Emissions, tons	2006 SO2 Emissions, tons	2005-2006 Average SO2 emissions, tpy	2005 NOx Emissions, tons	2006 NOx Emissions, tons	2005-2006 Average NOx Emissions, tons
1	1,025	1,187	1,106	302	349	326
2	1,101	1,139	1,120	266	282	274
3	1,321	1,444	1,383	374	392	383
4	1,454	1,502	1,478	429	411	420
5	23,309	23,856	23,583	2,617	2,743	2680

A decrease in actual emissions is creditable only if the decrease is federally enforceable at and after the time actual construction on the new Unit 6 begins. 40 C.F.R. § 51.166(b)(3)(vi)(b) (1996). The only emission reductions of SO_2 below 2005-2006 average emissions required in the Draft Title V Renewal Permit that would be federally enforceable are the shutdown of Units 1-4. (Section 2.2.1.a. at page 75). However, Duke did not request any credit for the SO_2 reductions required by the shut-down of these units in determining net emissions increase of SO_2 due to the new Cliffside Unit 6. August 14, 2007 Preliminary Determination for Cliffside Unit 6 (Tab 36) at 13. Further, the Draft Title V Renewal Permit does not include any federally enforceable limitations on SO_2 emissions that would reflect a reduction in 2005-2006 actual emissions averaged at Unit 5. While the permit requires the wet flue gas desulfurization system at Unit 5 to be operational prior to startup of the Unit 6, it does not indicate any corresponding SO_2 emission limit or control efficiency requirement for the SO_2 controls at unit 5. Thus, there are no federally enforceable SO_2 emission reductions required in the Draft Title V Renewal Permit that would create creditable SO_2 emission reductions at Unit 5.

Moreover, even if Duke had requested creditable SO_2 reductions for the shut down of Units 1-4 in a netting analysis for Cliffside Unit 6, the shut down would only create 5,087 tpy of

creditable emission reductions (setting aside the fact that those units are emitting SO_2 illegally), which is not enough to ensure an insignificant emission increase of SO_2 when compared to the 5,182.05 tpy increase in SO_2 emissions due to the new Cliffside Unit 6 and associated equipment. The net emissions increase of SO_2 in this case (if SO_2 credits were requested for the shutdown of Units 1-4 and ignoring the illegal modifications at these units for this analysis) would be 95.05 tpy, which is a significant net increase in SO_2 emissions.

With respect to NO_x, the Draft Title V Renewal Permit includes some federally enforceable emission reduction requirements at the existing Cliffside units that could be relied on in a netting analysis for Unit 6 if the existing emissions from Units 1-5 were not illegal due to the past improper modifications. Specifically, the shut down of Units 1 – 4 would create up to 1,403 tpy of creditable NO_x reductions. Further, the federally enforceable NO_x limit for Unit 5 of 2,465 tpy is less than the 2003-2004 average NO_x emissions of 2,680 tpy, which could create creditable emissions reductions of 215 tpy. However, the total of those reductions, 1,618 tpy, would not be sufficient to ensure no significant net emissions increase from the new Cliffside Unit 6 and associated equipment which has a potential to emit NO_x of 3,493 tpy. The net emissions increase of NO_x in this case (ignoring the illegal modifications at units 1-5) would be 1,875 tpy of NO_x, a major modification for NO_x.

Table 3: Evaluation of Net Emissions Increase due to Cliffside Unit 6 under the Current North Carolina PSD SIP (Ignoring Illegal Modifications at Cliffside Units 1-5)

Emission Unit	NO_x change in emissions, tpy	SO_2 change in emissions, tpy
Unit 6 Boiler	+3483.3 tpy	+5175.5 tpy
Auxiliary Boiler	+8.32 tpy	+4.3 tpy
Emergency Generator	+1.24 tpy	+1.9 tpy
Emergency Firewater Pump	+0.14 tpy	+0.35 tpy
Unit 5 Emergency Quench Water Pump	+0.23 tpy	+0.0004 tpy
Shutdown of Unit 1	-326 tpy	None Claimed by Duke
Shutdown of Unit 2	-274 tpy	None Claimed by Duke
Shutdown of Unit 3	-383 tpy	None Claimed by Duke
Shutdown of Unit 4	-420 tpy	None Claimed by Duke
Reductions at Unit 5	-215 tpy	0
Net Emission Increase	**+1875.23 tpy**	**+5182.05 tpy**

Thus, this analysis shows that, even if one sets aside the illegal modifications at units 1-5, Unit 6 would result in a significant net emissions increase of SO_2 and NO_x. The limitations and requirements DAQ included in the Draft Title V Renewal Permit, in an attempt to allow Unit 6 to avoid PSD review, are not adequate to create sufficient creditable SO_2 and NO_x emission reductions at the existing Cliffside units. Because the Draft Title V Renewal Permit fails to ensure compliance with applicable PSD requirements, including the current EPA-approved SIP, at Cliffside Unit 6, the Administrator must object.

6. Even When the PSD Violations at Cliffside Units 1-5 Are Ignored, There Will Be a Significant Net Emissions Increase of SO_2 and NO_x at Cliffside As Determined Under the 2008 North Carolina PSD Regulations that EPA Proposed to Approve in September 2008.

Not only is Cliffside Unit 6 a major modification of SO_2 and NO_x under the current North Carolina PSD SIP, Unit 6 would also be a major modification of SO_2 and NO_x under the North Carolina PSD regulations that EPA proposed to approve on September 9, 2008 (at 73 Fed.Reg. 52,226), even if one set aside the illegal modifications at the existing units. Petitioners provided an analysis of net emissions increase of SO_2 and NO_x in their October 30, 2008 comment letter to

DAQ based on North Carolina's 2008 PSD regulations. Specifically, Petitioners demonstrated that, there will be a net emissions increase at Cliffside of 4132.51 tpy and 49.74 tpy of in SO_2 and NO_x as a result of unit 6 and its associated equipment, respectively. Tab 3, Table 2 (p. 18). Petitioners' calculations took into account State-only enforceable limits in determining the potential to emit of new Unit 6 of 0.12 lb SO_2/MMBtu and 0.07 lb NO_x/MMBtu. Id. at 18. However, the North Carolina PSD regulation that EPA has proposed to approve as part of the SIP would only allow federally enforceable requirements to limit potential to emit. Thus, Petitioners provide below a calculation of net emissions increase of SO_2 and NO_x due to the Unit 6 modification at Cliffside based on the North Carolina rules EPA has proposed to approve as part of the SIP.

In determining creditable emission reductions under the EPA's proposed North Carolina PSD SIP, one first needs to determine the "baseline actual emissions" of the existing emission units at Cliffside. A review of DAQ's determination of "baseline actual emissions" for Cliffside Units 1-5 against the 2008 North Carolina PSD regulation shows that DAQ failed to properly determine baseline actual emissions of the existing units. The baseline actual emissions for the existing Cliffside units must be based on the average emissions over a 24-month period during the previous 5 years from the date a complete permit application was submitted to DAQ. 15A N.C. Admin. Code 02D. 0530(b)(1)(A) (2008). DAQ stated in its August 2007 Preconstruction Review for Cliffside Unit 6 (Tab 36) that the permit application was complete on July 6, 2007.[38] As discussed in Petitioners' October 30, 2008 comment letter to DAQ on the Draft Title V Renewal Permit, DAQ allowed Duke to determine baseline actual emissions of NO_x for its

[38] Id. While Duke did submit a permit application for Unit 6 in 2005, that permit application was actually for two new units and did not request that the new units net out of PSD review for NOx. Duke submitted a significantly different PSD permit application for Cliffside Unit 6 in 2007, and the date that application was considered complete by DAQ (i.e., July 2007) is the date from which the 5 year period for determining baseline actual emissions is set.

existing units based on 2001-2002 emissions data which goes beyond 5 years from the July 2007 complete permit application for Unit 6. Tab 3 at 18. Instead, the look-back period for both SO_2 and NO_x emissions at Cliffside Units 1-5 should have gone back no further than July 2002. While the North Carolina PSD rule allows DAQ to allow the use of a different time period, not to exceed ten years from the date of a complete PSD permit application, DAQ can only authorize this if the owner or operator of a source demonstrates that the different time period is more representative of normal source operation. DAQ has not made such a determination.[39] This resulted in an improper inflation of baseline actual emissions of NO_x for at least Unit 5.

A review of annual emissions data from EPA's Clean Air Markets Database for 2002-2005 shows that 2003-2004 was the period of highest NO_x emissions. Thus, without considering any other limitation on setting "baseline actual emissions" for the existing Cliffside units, such as the illegal modifications at Units 1-5, the baseline emissions could be based on this two-year period of emissions, which would be determined as follows:

Table 4: 2003-2004 Average NOx and SO2 Emissions of Cliffside Units 1-5

Cliffside Unit No.	2003 SO2 Emissions, tons	2004 SO2 Emissions, tons	2003-2004 Average SO2 emissions, tpy	2003 NOx Emissions, tons	2004 NOx Emissions, tons	2003-2004 Average NOx Emissions, tons
1	1,425	666	1,046	350	151	251
2	1,539	926	1,233	389	216	303
3	1,837	1,263	1,550	512	346	429
4	1,993	1,270	1,632	548	364	456
5	28,183	23,558	25,871	4,041	2,748	3,395

[39] Further, it is not likely that DAQ could justify 2001 as being more representative of normal source operation for Cliffside Unit 5 because Unit 5 had much higher NOx emissions in 2001 of 7,943 tpy than in 2002-2005 during which the highest NOx emission rate reported for Unit 5 was only 4,041 tpy. (Emissions data from EPA's Clean Air Markets Database).

Under the EPA's proposed revisions to the North Carolina PSD SIP, a decrease in actual emissions is creditable only if the decrease is enforceable as a practical matter at and after the time actual construction on the new Unit 6 begins. 40 C.F.R. § 51.166(b)(3)(vi)(b) (2007). According to EPA, "'enforceable as a practical matter' will be achieved only if a requirement is both legally and practically enforceable." 67 Fed.Reg. 80,191 (Dec. 31, 2002). Thus, under the definition of "net emissions increase" as revised by EPA in its December 31, 2002 rulemaking (and as proposed by EPA to be part of the North Carolina PSD SIP), decreases in emissions at Cliffside are creditable for netting purposes only if Cliffside is subject to emission reduction requirements that are enforceable at and after the time construction commences on the new unit 6. However, the Draft Title V Renewal Permit's PSD avoidance conditions do not require the shut down of Cliffside units 1-4 until "prior to startup" of the new unit 6 boiler. See Section 2.2.C.1. Thus, none of the emission reductions due to the shut down of Cliffside Units 1-4 are creditable for the purposes of determining net emissions increase under the 2008 North Carolina PSD rules.[40] Further, the Draft Title V Renewal Permit does not include any limitations that are enforceable as a practical matter on SO_2 emissions at Unit 5 that would reflect a reduction in baseline actual emissions of the unit. While the permit does require the wet flue gas desulfurization system at Unit 5 to be operational prior to startup of the new Cliffside Unit 6, the Draft Title V Renewal Permit does not specify any corresponding SO_2 emission limit or control efficiency requirement for the SO_2 controls at Unit 5 and, therefore, does not meet EPA's requirements for practical enforceability. See 67 Fed.Reg. 80,191 (Dec. 31, 2002).

With respect to NO_x, the Draft Title V Renewal Permit includes a requirement that Unit 5 not emit more than 2,465 tpy of NO_x (Section 2.2.C.1.a.ii. of the Cliffside Title V Permit). Since

[40] Further, as discussed above, Duke did not request any credit for the SO_2 reductions required by the shut down of these units.

it appears this must be complied with upon issuance of the Title V permit, it could be considered as a potentially creditable emission reduction for netting.

However, the NO_x emission reductions would not be enough to net out Unit 6 from PSD review based on Unit 6 and its associated equipment's potential to emit NO_x at a rate of 3,493.0 tpy (as calculated in Table 1 above). Further, there are no creditable reductions in actual emissions of SO_2 at Cliffside to net out the potential to emit SO_2 from new unit 6 and associated equipment of 5,182.05 tpy (as calculated in Table 1 above). Thus, even if the illegal modifications at existing Cliffside Units 1-5 are set aside, the net emissions increase of SO_2 and NO_x from the addition of Unit 6 and associated equipment at Cliffside based on the EPA's proposed North Carolina PSD SIP would be as follows:

Table 5: Evaluation of Net Emissions Increase due to Cliffside Unit 6 under Proposed North Carolina PSD SIP Rules (Ignoring Illegal Modifications at Cliffside Units 1-5)

Emission Unit	**NO_x change in emissions, tpy**	**SO_2 change in emissions, tpy**
Unit 6 Boiler	+3483.3 tpy	+5175.5 tpy
Auxiliary Boiler	+8.32 tpy	+4.3 tpy
Emergency Generator	+1.24 tpy	+1.9 tpy
Emergency Firewater Pump	+0.14 tpy	+0.35 tpy
Unit 5 Emergency Quench Water Pump	+0.23 tpy	+0.0004 tpy
Shutdown of Unit 1	No creditable reductions because shut down not required until after construction commences on Unit 6	No creditable reductions because shut down not required until after construction commences on Unit 6; also none claimed by Duke
Shutdown of Unit 2		
Shutdown of Unit 3		
Shutdown of Unit 4		
Reductions at Unit 5	-930 tpy	0
Net Emission Increase	**+2562.93 tpy**	**+5182.05 tpy**

This analysis shows that, even if one does not consider the illegal modifications at Units 1-5 as climinating or diminishing any creditable emission reductions at these units for netting purposes, Cliffside Unit 6 would result in a significant net emissions increase of SO_2 and NO_x

under the current North Carolina PSD rules that EPA proposed to approve as part of the SIP in September 2008. The limitations and requirements DAQ included in the Draft Title V Renewal Permit are not adequate to create creditable SO_2 and NO_x emission reductions at the existing Cliffside units. Therefore, EPA must object because the permit fails to ensure compliance with applicable PSD requirements, including the current EPA-approved SIP, at Cliffside Unit 6.

7. DAQ Improperly Allowed Duke to Use Clean Smokestacks Act Emissions Reductions for Netting Purposes.

The Clean Smokestacks Act ("CSA") is a state law that requires reductions in NO_x and SO_2 emissions from coal-fired generating plants in North Carolina. Utilities, such as Duke, are permitted to pass the costs of complying with the CSA to their customers. Duke is using reductions at existing Cliffside Units 1-5 to meet its CSA emissions reductions, and is seeking (or has sought) recovery of the costs associated with those reductions via higher rates to its customers.

To prevent utilities from "double-counting" their CSA emissions reductions—by recovering the cost of pollution reductions required by the CSA from the rate-paying public ***and*** using CSA reductions for PSD netting purposes—North Carolina's current PSD regulations require a downward adjustment to an electric generating unit's ("EGU") baseline actual emissions (the starting point for the netting calculation) to reflect any emissions reductions for which cost recovery is sought under the CSA. 15A N.C. Admin. Code 02D .0530(b)(1)(A)(iv). This provision is part of the North Carolina PSD rules that EPA proposed to approve as part of the SIP on September 9, 2008. (73 Fed.Reg. 52,226).[41] Consequently, the baseline actual

[41] Under a 2006 law enacted by the North Carolina General Assembly, this limitation on baseline actual emissions does not apply any air permit application that is submitted and determined to be administratively complete on or before August 1, 2006. 2006 N.C. Sess. Laws 255; 2005 N.C. SB 1587. DAQ and Duke have relied on this 2006 law in determining baseline actual emissions for Cliffside, allowing Duke to not adjust the baseline actual emissions of SO_2 and NO_x the existing units downward to reflect the Clean Smokestacks Act. Petitioners' October 30, 2008

emissions for the Cliffside plant must be adjusted downward for those emission reductions required under the CSA and for which cost recovery was or will be sought pursuant to 15A N.C. Admin. Code 02D .0530(b)(1)(A)(iv). If the emissions reductions are properly adjusted downward, as required by law, the creditable emissions reductions available at Cliffside are insufficient to allow Duke to net Unit 6 out of PSD applicability for SO_2 and NO_x. See Petitioners' Written Comments (October 30, 2008) (Tab 3) at 14-15 (describing how Duke's NO_x and SO_2 netting analyses are significantly flawed because they rely on impermissible levels of baseline actual emissions for NO_x and SO_2).

8. DAQ Has Not Demonstrated that the Emission Reductions at Cliffside Have the Same Qualitative Significance for Public Health and Welfare as the Emissions Increases from Unit 6.

For an emissions decrease at the existing Cliffside units to be "creditable" for netting purposes under either the current North Carolina PSD SIP or under the EPA's proposed revisions to the North Carolina PSD SIP, it must, in addition to the other requirements discussed above, have "approximately the same qualitative significance for public health and welfare as that attributable to the increase" in emissions from the new Unit 6. 40 C.F.R. § 51.166(b)(3)(vi)(c) (incorporated by reference in 15A N.C. Admin. Code 02D .0530(b)). Here, DAQ failed to require a proper demonstration by Duke, through air quality modeling, that the historic emissions from the existing boilers and associated equipment at Cliffside have the same "qualitative significance" for public health and welfare as the future emissions from Unit 6.

In DAQ's response to SELC and EPA comments on the Draft Permit No. 04044T28, DAQ equated this requirement with a determination that the project will not cause or contribute

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comments on the draft Cliffside Title V permit explain that Cliffside Unit 6 does not qualify for this S.B. 1587 exemption. Tab 3, Section IV.A.1. at 13-15. In any case, the exemption allowed by S.B. 1587 was not included in the North Carolina PSD rules that EPA proposed to approve on September 9, 2008. See Document ID EPA-R04-OAR-2005-0534-0009 in the docket for EPA's proposed North Carolina SIP approval at www.regulations.gov.

to a violation of air quality standards. See Preconstruction Review and Final Determination (Tab 36) at 6-7, 16 ("PSD modeled values are assessed against federally recognized Primary and Secondary National Ambient Air Quality Standards (NAAQS)"). However, because the applicable regulations already require a demonstration that the project will not cause or contribute to a violation of the NAAQS or PSD increment, see 40 C.F.R. § 51.166(k), DAQ's flawed interpretation of the "same qualitative significance" requirement would render that requirement a nullity. Such an interpretation is contrary to the cardinal principle of statutory construction that every word in a statute must be given meaning. Fund for Animals, Inc. v. Kempthorne, 472 F.3d 872, 877-78 (D.C. Cir. 2006) (rejecting plaintiffs' interpretation because statutes should be construed "so that no part will be inoperative or superfluous, void or insignificant, and so that one section will not destroy another unless the provision is the result of obvious mistake or error.") (internal quotation marks and citation omitted); Benavides v. DEA, 968 F.2d 1243, 1248 (D.C. Cir. 1992) (rejecting Attorney General's interpretation of statutory provision because it would make provision "either superfluous or meaningless"); RCA Global Communications, Inc. v. FCC, 758 F.2d 722, 733 (D.C. Cir. 1985) (rejecting interpretation that "would deprive [the provision] of all substantive effect, a result self evidently contrary to Congress' intent").

Duke did not conduct any "qualitative significance" analysis for Class I area that will be impacted by emissions from either the existing units or Unit 6; it merely provided modeling results for the near-field area around Cliffside, and not the Class I areas.

9. Conclusion

In sum, DAQ erred in failing to require that Unit 6 undergo PSD review for SO_2 and NOx. The Clean Air Act mandates that a Title V permit include all applicable emission

limitations and standards, including PSD limits. However, the Draft Title V Renewal Permit erroneously allows Unit 6 to avoid PSD review for SO_2 and NO_x. Emissions reductions at Units 1-5 should not have been used for netting purposes because those units have been operating illegally. Therefore, Unit 6 is a major modification that will result in a significant net increase in SO_2 and NO_x emissions. Moreover, even if the PSD violations at Cliffside Units 1-5 are set aside, there will still be a significant net emissions increase of SO_2 and NO_x at Cliffside under either the current SIP or 2008 PSD regulations.

DAQ should have subjected Unit 6 to all PSD requirements, including application of BACT SO_2 and NO_x to be emitted by Unit 6. DAQ failed to do so based on a PSD applicability analysis SO_2 and NO_x at Unit 6 that is erroneous under either the currently-approved SIP rules or North Carolina's 2008 PSD regulations. DAQ also improperly allowed Duke to use Clean Smokestacks Act emissions reductions for netting purposes, in contravention of state PSD regulations, and failed to demonstrate that emission reductions at Units 1-5 have the same qualitative significance for public health and welfare as the emissions increases from Unit 6. The Draft Title V Renewal Permit does not ensure compliance with all applicable requirements and the Permit's reopener provision does not cure this error because PSD requirements must be fulfilled before construction commences. For all these reasons, the Administrator must object to the Draft Title V Renewal Permit.

C. The Draft Renewal Permit Does Not Subject Cliffside to the Best Available Control Technology for Several Regulated Pollutants.

1. The Draft Renewal Permit Does Not Contain BACT Limits for CO_2

DAQ erred in issuing the Draft Renewal Permit without subjecting Unit 6 to BACT requirements, including setting a BACT emissions limit for CO_2. Unit 6 will be a major source of significant carbon dioxide ("CO_2") emissions, emitting over 6 million tons of CO_2 during each

year of its operation, totaling some 300 million tons over its 50-year operational life.[42] Because CO_2 is a pollutant subject to regulation under the Clean Air Act, DAQ should have established CO_2 BACT limits. Therefore, the Administrator must object to the Draft Renewal Permit and require DAQ to conduct a BACT analysis for CO_2.

The Act defines BACT as

> an emission limitation based on the maximum degree of reduction of ***each pollutant subject to regulation*** under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through the application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant.

42 U.S.C. § 7479(3) (emphasis added).

Under the Clean Air Act's Prevention of Significant Deterioration ("PSD") provisions, the permitting agency must conduct a BACT analysis and set BACT emissions limits "for each pollutant subject to regulation under [the Act]" whose emissions exceed specified significance levels. 42 U.S.C. § 7475(a). Federal PSD regulations provide that a major modification (such as Cliffside Unit 6) "shall apply best available control technology for a regulated NSR [new source review] pollutant for which it would be a significant net emissions increase at the source." 40 C.F.R. § 51.166(j)(3).[43] In turn, the regulations define "regulated NSR pollutant" as 1) any pollutant for which a national ambient air quality standard has been promulgated; 2) any pollutant subject to a new source performance standard promulgated under Section 111 of the Act; 3) any pollutant subject to a standard promulgated under Title VI of the

[42] 6.25 million tons per year (calculated based on 202 lb/MMBtu emissions factor for bituminous coal, assuming 90% capacity factor for the new unit and maximum heat input capacity of 7850 MMBtu/hr).
[43] Incorporated by reference in 15A N.C. Admin. Code 2D.0530 (g) ("Major stationary sources and major modifications shall comply with the requirements contained in 40 C.F.R. 51.166(i) and (a)(7) and by extension in 40 C.F.R. 51.166(j) through (o) and (w).")

Act (relating to acid deposition control); 4) ***or "[a]ny pollutant that otherwise is subject to regulation under the Act.***" 40 C.F.R. § 51.166(b)(49) (emphasis added).

CO_2 fits squarely in this fourth category. It is clear that CO_2 is a pollutant under the Clean Air Act. See Massachusetts v. EPA, 127 S. Ct. 1438, 1462 (2007). Thus, the only remaining question is whether CO_2 is "subject to regulation" under the Act.

a. Carbon Dioxide Is Regulated Under the Act.

It is equally clear that CO_2 is "subject to regulation" under the Clean Air Act. EPA's Environmental Appeals Board's ("EAB") recent decision in In re Deseret Power Electric Cooperative ("Deseret") addressed whether CO_2 is "a pollutant subject to regulation" under the Clean Air Act. PSD Appeal 07-03 (EAB Nov. 13, 2008).[44] In Deseret, petitioners sought review of an EPA-issued PSD permit authorizing the construction of a new coal-fired EGU at the existing Bonanza Power Plant. Petitioners in Deseret argued that EPA violated the Clean Air Act because the permit failed to require a BACT limit to control CO_2 emissions. Like DAQ's response to Petitioners' comments on the draft of Permit 04044T28—which is the only response Petitioners have received to date from DAQ on the issue of CO_2 and BACT for Cliffside—EPA in Deseret responded to the petitioners' comments on the draft permit concerning the lack of a BACT limit for CO_2 by stating that "EPA does not currently have the authority to address the

[44] Because the EAB issued its decision in Deseret on November 13, 2008, after the public comment period on the Draft Renewal Permit concluded, Petitioners did not specifically mention Deseret and the events that followed the EAB's decision in their October 30, 2008 comments. However, they are properly before EPA in this Petition. See Section 505(b)(2) of the CAA, 42 U.S.C. § 7661d(b)(2) (providing an exception to the threshold requirement that a petition must be based only on the permit objections raised during the public comment period if Petitioners show that it was "impracticable to raise such objections . . . or unless the grounds for such objection arose after such period."). Moreover, Petitioners raised in their written comments the underlying objection that DAQ failed to conduct BACT for CO_2 because it erroneously concluded that CO_2 is not a regulated pollutant. Petitioners specifically incorporate by reference the portion of their October 30, 2008 comments (Tab 3) that addresses the Draft Renewal Permit's failure to contain BACT limits for CO2, contained in Part IV, I (pp 30-39).

challenge of global climate change by imposing limitations on emissions of CO_2 and other greenhouse gases in PSD permits." Deseret Order at 16 (internal quotation marks omitted).

The EAB rejected as "clearly erroneous" EPA's contention that it lacked the authority to impose a CO_2 BACT limit in a permit for a new coal-fired power plant. In so doing, the EAB (i) repudiated EPA's historical interpretation of "the term 'subject to regulation under the Act' to describe pollutants that are presently subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant," id. at 9; (ii) held that EPA's permitting decision could not be sustained on the administrative record; and (iii) issued an order rejecting EPA's BACT decision and remanding the permit to EPA. Id. at 6, 63.

While the EAB found that the Clean Air Act is ambiguous and allows room for agency interpretation, it found that construing the Act to require BACT for CO_2 is not only plausible, but is also supported by the only regulatory history that speaks directly to the meaning of "subject to regulation." Deseret, Slip. Op. at 38-42. Specifically, the EAB concluded that the most direct and authoritative EPA pronouncement to date, contained in a 1978 EPA PSD rulemaking, 43 Fed. Reg. 26,388 (June 19, 1978), "augers in favor of a finding that . . . the Agency interpreted 'subject to regulation under this Act' to mean 'any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations for any source type,'" which includes CO_2 monitoring and reporting regulations. Deseret, Slip Op. at 41. Therefore, according to the EAB and the most recent final rulemaking on the topic, CO_2 is "subject to regulation under this Act" and therefore is subject to BACT requirements.[45]

[45] Petitioners understand that on December 18, 2008, former EPA Administrator Stephen Johnson issued a memorandum to EPA Regional Administrators ("the Johnson Memo") in which he purported to establish EPA's "definitive interpretation" of "regulated NSR pollutants" in response to the EAB's decision in Deseret. EPA published notification of the Johnson Memo in the Federal Register on December 31, 2008. 73 Fed. Reg. 80,300. The Johnson Memo does not compel a different result. The Johnson Memo was issued in violation of the procedural requirements of the Administrative Procedures Act ("APA"), 5 U.S.C. § 101 et seq., and the Clean Air Act

b. Carbon Dioxide Is Subject to Further Regulation Under the Act.

In DAQ's PSD Preconstruction Review and Final Determination ("Final Determination") on Permit 04044T28—the only time DAQ has discussed its reasoning for not conducting a BACT analysis for CO_2—DAQ noted that the Supreme Court in Massachusetts v. EPA did not decide whether EPA must make an endangerment finding, which would trigger the requirement to regulate CO_2 emissions from new motor vehicles. DAQ went on to say that "[a]s of this time, EPA had made no endangerment finding or issued regulations requiring the control of CO_2 emissions under the Act." Final Determination (Tab 36) at 24.

Thus, DAQ has indicated that it did not subject Unit 6 to PSD review for CO_2, not only because "subject to regulation" means subject to emissions controls and CO_2 is not presently subject to a statutory or regulatory emissions controls (which the EAB rejected in Deseret), but also because EPA has not yet issued an endangerment finding. However, this alternative justification suffers the same fate as DAQ's reliance on EPA's purported "historical interpretation," which the EAB rejected in Deseret.

Unlike the source-specific, case-by-case PSD review that is the subject of this petition and the appeal in Deseret, the Supreme Court in Massachusetts v. EPA was addressing generally applicable nationwide standards for new motor vehicles. Before limiting pollutant emissions from new motor vehicles or new motor vehicle engines, the EPA Administrator must make a

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("CAA"), 42 U.S.C. § 7607; directly conflicts with prior agency actions and interpretations; and purports to establish an interpretation of the Clean Air Act that conflicts with the plain language of the statute. Even if the Johnson Memo were not unlawful due to procedural and substantive flaws, it is not persuasive. It is not a final rulemaking that was subject to notice and comment and is, therefore, accorded no deference. Skidmore v. Swift & Co., 323 U.S. 134, 140 (1944). Moreover, because the Johnson Memo is merely another iteration of EPA's rejected position in Deseret, it also lacks the "power to persuade." Id. The Johnson Memo is currently being challenged by several environmental organizations. See Petition for Reconsideration *In the Matter of EPA Final Action Published at 73 Fed. Reg. 80300 (December 31, 2008), entitled "Clean Air Act Prevention of Significant Deterioration (PSD) Construction Permit Program; Interpretation of Regulations That Determine Pollutants Covered by the Federal PSD Permit Program* (Tab 39).

judgment that air pollution caused by the pollutant "'may reasonably be anticipated to endanger public health or welfare.'" CAA § 202(a)(1), 42 U.S.C. § 7521(a)(1). As the EAB noted in Deseret, "CAA sections 165 and 169 [which require PSD permits to include a BACT emissions limit for each pollutant subject to regulation under the Act] do not contain similar language requiring a public health or welfare 'endangerment' finding under the PSD program as a precondition for the CAA's requirement that EPA apply BACT." Deseret at 25. Rather, in the PSD program, Congress struck a different balance: Congress set a lower threshold for requiring a BACT analysis ("any actual or potential adverse effect") while providing for a more flexible, case-by-case approach that considers "energy, environmental, and economic impacts and other costs." 42 U.S.C. § 7479(3). An endangerment finding is not required to trigger PSD review. Accordingly, DAQ's reasoning is clearly erroneous.

In sum, CO_2 unquestionably is a "pollutant" and, under any plausible reading of the Act and its regulations, CO_2 is both actually regulated and "subject to regulation." Therefore, CO_2 fits precisely within the preconstruction PSD and BACT provisions of the Act. Accordingly, DAQ should have conducted a BACT analysis and incorporated BACT limits for CO_2 into the Draft Title V Renewal permit. The Administrator must object to the Draft Title V Renewal Permit due to DAQ's failure to do so.

2. The Draft Renewal Permit Does Not Contain BACT Limits for $PM_{2.5}$

Based on the PM_{10} limits in the Draft Title V Renewal Permit, the potential to emit fine particle pollution ("$PM_{2.5}$") at Unit 6 is 425 tons/year.[46] Although Cliffside Unit 6 would be a

[46] Using EPA's AP-42 PM10 size fractions for coal-fired boilers, it can be assumed that 53% of Unit 6's filterable PM10 would be of a size of PM2.5 or smaller, and 100% of their condensible PM10 would be of a size PM2.5 or smaller. See AP-42, Tables 1.1-5 and 1.1-6. With this information, we can calculate potential to emit of PM2.5 for Unit 6. Based on the currently proposed PM10 BACT limits of 0.012 lb/MMBtu filterable and 0.018 lb/MMBtu total (filterable plus condensibles, which means condensibles could be emitted at 0.006 lb/MMBtu), the potential to emit PM2.5 at Unit 6 may be calculated as follows:

major source of $PM_{2.5}$, emitting over four times the major-source threshold, the permit does not contain a BACT-determined emission limitation or any other design, equipment, work practice or operational standard for $PM_{2.5}$. DAQ failed to evaluate best available control technology for reducing $PM_{2.5}$ emissions; it failed to require preconstruction monitoring of current $PM_{2.5}$ concentrations; and it failed to require air quality modeling to determine the impact of these $PM_{2.5}$ emissions on the area's compliance with the $PM_{2.5}$ NAAQS. These omissions violate the Clean Air Act and federal and state regulations. Therefore, the Administrator must object to the Draft Title V Renewal Permit and require DAQ to incorporate these applicable requirements into the permit.

a. BACT Is Required for $PM_{2.5}$.

Section 165(a)(1) of the Clean Air Act provides that no new or modified major source may be constructed without a PSD permit. 42 U.S.C. § 7475(a)(1). DAQ must conduct a BACT analysis and include in the PSD permit BACT emission limitations "for each pollutant subject to regulation under [the Clean Air Act]" for which emissions exceed specified significance levels. 42 U.S.C. §§ 7475(a), 7479; 40 C.F.R. §§ 51.166(b)(2), (b)(23), (b)(39), (b)(49), (j)(3). The PSD regulations provide that "[a] major modification shall apply best available control technology for a regulated NSR pollutant for which it would be a significant net emissions increase at the source." 40 C.F.R. § 51.166(j)(3); 15A N.C. Admin. Code 02D.0530(g) ("Major stationary sources and major modifications shall comply with the requirements contained in 40 C.F.R. § 51.166(i) and (a)(7) and by extension in 40 C.F.R. § 51.166(j) through (o) and (w)."). As described above, "regulated NSR pollutant" is defined as, among other things, "[a]ny pollutant for which a national ambient air quality standard has been promulgated and any

(7850 MMBtu/hr x 0.012 lb/MMBtu x 8,760 hrs/year x 53% (percentage of particles PM2.5 size or smaller) +(7850 MMBtu/hr x 0.006 lb/MMBtu x 8,760 hrs/year) = 425 tons per year of PM2.5.

pollutant identified under this paragraph (b)(49)(i) as a constituent or precursor to such pollutant. Precursors identified by the Administrator ... [include] volatile organic compounds and nitrogen oxides ... [for] ozone." 40 C.F.R. § 51.166(b)(49)(i). EPA has promulgated a separate and distinct national ambient air quality standard for $PM_{2.5}$. See National Ambient Air Quality Standards for Particulate Matter, Final Rule, 62 Fed. Reg.38,652 (July 18, 1997).[47] Therefore, there is no question that $PM_{2.5}$ is a regulated NSR pollutant.

For BACT to be required for $PM_{2.5}$, the addition of Cliffside Unit 6 must result in a significant net emissions increase of $PM_{2.5}$. The federal regulations do not list a significance level for $PM_{2.5}$. 40 C.F.R. § 51.166 (b)(23)(i). For NSR-regulated pollutants for which specific significance levels have not been established, "any" rate of emissions is defined as significant under both federal and North Carolina air quality regulations. 40 C.F.R. § 51.166(b)(23)(ii); 15A N.C. Admin.Code 2D .0530(b) (adopting definitions in 40 C.F.R. § 51.166(b)). Consequently, all PSD requirements for $PM_{2.5}$, including monitoring, modeling, and BACT, are "applicable," and the Draft Renewal Permit must be revised to incorporate them.

b. DAQ Improperly Relied upon Nonbinding Guidance Memoranda that Directly Contradict the Clean Air Act.

In issuing Air Quality Permit 04044T28—and including Unit 6 in the Draft Title V Renewal Permit—without addressing $PM_{2.5}$ as a PSD pollutant, DAQ relied on EPA guidance memoranda providing that sources could use a PM_{10} program as a surrogate for meeting $PM_{2.5}$

[47] EPA promulgated a separate NAAQS for $PM_{2.5}$ based on its finding that $PM_{2.5}$ is particularly dangerous to human health and causes different environmental consequences than coarse particulates. See 62 Fed. Reg.38,652, 38,665 (stating that there are stronger links to the mortality and morbidity effects of particulate matter from exposure to $PM_{2.5}$ rather than PM_{10}); see also id. at 38,666 (discussing that control efforts can be improved by defining size classes of particulate matter and that fine and coarse fractions should be considered different classes of particles under the Clean Air Act); see also id. at 38,667 (stating that based on evidence from health studies and the inherent physical and chemical distinction between fine and coarse particulates, there is a proper basis to conclude that the two should be considered separate and have separate emission limits and standards).

NSR requirements.[48] DAQ's failure to conduct a full PSD review and set BACT limits for $PM_{2.5}$ based on these memoranda, was improper. First, EPA guidance memoranda are not regulations and do not have the force of law. See Henrikson v. Guzik, 249 F.3d 395, 398 (5th Cir. 2001) (quoting Skidmore v. Swift, 323 U.S. 134, 140 (1944)) (agency guidance documents are only entitled to respect "to the extent that they have 'the power to persuade.'"); see also Henrikson, 249 F.3d at 398 (quoting Christensen v. Harris County, 529 U.S. 576, 587 (2000)) (agency interpretations that were "not arrived at by 'formal adjudication or notice-and-comment rulemaking', e.g. ... 'policy statements...which lack the force of law – do not warrant Chevron-style deference.'").

Second, these memoranda are no longer applicable or relevant. The memoranda initially served to provide time for the development of necessary tools to calculate the emissions of $PM_{2.5}$ and related precursors, adequate modeling techniques to project ambient impacts, and $PM_{2.5}$ monitoring sites. See Proposed Rule To Implement the Fine Particle National Ambient Air Quality Standards, 70 Fed. Reg. 65,984, 66,043 (Nov. 1, 2005). But EPA has now resolved most of these issues, as discussed below, and DAQ may not rely on this outdated guidance to avoid the obligation to address $PM_{2.5}$ as a PSD pollutant.

More importantly, as of the promulgation of the final $PM_{2.5}$ implementation rule, "EPA will no longer accept the use of PM_{10} emissions information as a surrogate for $PM_{2.5}$ emissions information [for Title V permits] given that both pollutants are regulated by a National Ambient Air Quality Standard and therefore are considered regulated air pollutants." Clean Air Fine

[48] Preconstruction Review (Tab 36) at 6 (citing Memorandum from John S. Seitz, Director, EPA Office of Air Quality Planning & Standards, Interim Implementation of New Source Review Requirements for PM2.5 (Oct. 23, 1997) (the "Seitz Memo"); Memorandum from Stephen D. Page, Director, Implementation of New Source Review Requirements in PM2.5 Nonattainment Areas (April 5, 2005) (the "Page PM2.5 Memo") (Tab 37).

Particle Implementation Rule; Final Rule, 72 FR 20586, 20660 (April 25, 2007) (footnotes omitted). As EPA explained:

> Under the Title V regulations, sources have an obligation to include in their Title V permit applications all emissions for which the source is major and all emissions of regulated air pollutants. The definition of regulated air pollutant in 40 CFR 70.2 includes any pollutant for which a NAAQS has been promulgated, which would include both PM[10] and PM[2.5]. To date, some permitted entities have been using PM[10] emissions as a surrogate for PM[2.5] emissions. Upon promulgation of this rule, EPA will no longer accept the use of PM[10] as a surrogate for PM[2.5]. Thus, **sources will be required to include their PM[2.5] emissions in their Title V permit applications, in any corrections or supplements to these applications, and in applications submitted upon modification and renewal.** See 40 CFR 70.5(c)(3)(i), 70.5(b), and 70.7(a)(1)(i); 40 CFR 71.5(c)(3)(i), 71.5(b), and 71.7(a)(1)(i).

Id. at 20659 (emphasis added).[49] EPA went on to explain that the degree of quantification of $PM_{2.5}$ emissions required will depend on the types of determinations that a permitting authority needs to address for a particular source, the requirements of Title V, and the informational needs and requirements of the particular State in question: "Circumstances necessitating the quantification of PM[2.5] emissions and the submittal of this information include: . . . determining whether an applicable requirement or program applies, e.g., determining the applicability of a SIP requirement or a PSD or nonattainment NSR program, etc." Id.

c. There Are No Longer Any Technical Impediments to Conducting a BACT Analysis for $PM_{2.5}$ or for Setting a $PM_{2.5}$ Emission Limit.

In the Page $PM_{2.5}$ Memo (Tab 37), EPA explained that the Seitz Memo "identified significant technical difficulties with implementing PSD for $PM_{2.5}$ because of limitations in ambient monitoring and modeling capabilities."[50] As EPA affirmed in its recently-issued

[49] Despite EPA's announcement that, upon promulgation of the final Clean Air Fine Particle Implementation Rule, sources can no longer use PM_{10} as a surrogate for $PM_{2.5}$, DAQ issued the Draft Title V Renewal Permit and Modified Draft Title V Renewal Permit *after April 25, 2007* without addressing $PM_{2.5}$ as a PSD pollutant, relying on PM_{10} as a surrogate for $PM_{2.5}$.

[50] Memorandum from Stephen D. Page, Director, Implementation of New Source Review Requirements in PM2.5 Nonattainment Areas 4 (April 5, 2005) (the "Page PM2.5 Memo") (Tab 37) at 4.

implementation rule for $PM_{2.5}$, in the decade since the Seitz Memo, concerns about monitoring and modeling $PM_{2.5}$ have been largely resolved. $PM_{2.5}$ monitoring stations have been in operation for many years; measurement methods are in place; and adequate modeling techniques have been developed.

With regard to measurement methods, EPA has issued Conditional Test Method 40 (CTM-040) for filterable $PM_{2.5}$. Although this is not yet a promulgated test method, it is based on Method 201A, a well-established test method that EPA has formally adopted.[51] Further, Method 202 is in regular use to measure condensible PM. EPA is now preparing to release a modified version of this method to improve its accuracy and repeatability. EPA is also developing a test method capable of measuring both filterable and condensible particulate. The draft of this method, known as the "dilution sampling" method, is available on the EPA website as CTM-039.[52]

In short, there are reliable, field-tested methods available right now to measure $PM_{2.5}$, and even better methods are already available in draft form. In addition, established models for analyzing $PM_{2.5}$ impacts already exist. Two models have been approved at different points in time for $PM_{2.5}$ modeling: the ISC model[53] and the AERMOD model.[54]

d. DAQ Cannot Assume that BACT for PM_{10} Is BACT for $PM_{2.5}$.

DAQ erroneously assumes that PM_{10} is a reliable surrogate for $PM_{2.5}$. EPA has recognized that fine and coarse particulates, $PM_{2.5}$ and PM_{10}, respectively, "are generally

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[51] 72 Fed.Reg. at 20653 ("[W]e believe that further validation of this method is unwarranted since the technology and procedures are based upon the same as evaluated for promulgated Method 201A").
[52] EPA website: www.epa.gov/ttn/emc/ctm.html.
[53] See Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Final Rule, 61 Fed. Reg. 41838, 41850 (August 12, 1996).
[54] See Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule 70 Fed. Reg. 68218, 68253 (November 9, 2005) (adopting AERMOD as the "preferred model").

associated with distinctly different source types and formation processes."[55] EPA has also recognized that "PM[2.5] also differs from PM[10] in terms of atmospheric dispersion characteristics, chemical composition, and contribution from regional transport."[56] $PM_{2.5}$ disperses generally much farther than does PM_{10}. Therefore, PM_{10} modeling is an inadequate surrogate for $PM_{2.5}$.

DAQ claims that "compliance for PM_{10} under the NSR regulations satisfies compliance for $PM_{2.5}$."[57] But BACT for PM_{10} is not BACT for $PM_{2.5}$. Because the effectiveness of controls varies with respect to particulate size, the permit must address PM_{10} and $PM_{2.5}$ separately. DAQ asserts that "technologies to control PM_{10} also have been shown to be effective at capturing $PM_{2.5}$."[58] This is incorrect. In fact, control technologies for PM_{10} often do not provide for effective control of $PM_{2.5}$. In identifying control measures as PM_{10} BACT, Duke and DAQ neglected to consider control measures that would be more effective at controlling $PM_{2.5}$. Thus, DAQ concludes that a spray dry absorber (for condensibles) followed by a fabric filter (for filterables) is BACT for PM_{10}, but never confronts the problem that a fabric filter is not as effective at capturing fine particles, particularly at the sub-micron level.

EPA has specifically recognized that PM_{10} controls do not necessarily provide for effective control of $PM_{2.5}$. "In contrast to PM[10], EPA anticipates that achieving the NAAQS for PM[2.5] will generally require States to evaluate different sources for controls, to consider controls of one or more precursors in addition to direct PM emissions, and to adopt different control strategies." 72 Fed. Reg. 20,586, 20,589 ($PM_{2.5}$ implementation rule). Accordingly, DAQ had to, but did not, conduct a BACT analysis specifically for $PM_{2.5}$.

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[55] Proposed Rule To Implement the Fine Particle National Ambient Air Quality Standards, 70 Fed. Reg. 65984, 65992 (November 1, 2005).
[56] 72 Fed. Reg. 20586, 20599.
[57] Preconstruction Review (Tab 36) at 6.
[58] Preconstruction Review (Tab 36) at 37.

e. DAQ Must Require $PM_{2.5}$ Modeling.

The Clean Air Act, federal and approved SIP regulations all impose a legal duty on DAQ to require that the owner or operator of a proposed modification demonstrate that emissions from the modification will not cause or contribute to air pollution in violation of any NAAQS. The Act itself provides that "No major emitting facility . . . may be constructed in any area to which this part . . . applies unless . . . the owner or operator of such facility demonstrates . . . that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any . . . national ambient air quality standard in any air quality control region." 42 U.S.C. § 7475(a)(3)(B). Similarly, the PSD regulations provide that "the owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reduction (including secondary emissions) would not cause or contribute to air pollution in violation of . . . Any national ambient air quality standard in any air quality control region." 40 C.F.R. § 51.166(k)(1).[59] In addition, North Carolina's SIP-approved regulations impose stringent requirements, including LAER, offsets and a demonstration of compliance with emissions limitations, before permits can be issued to sources that contribute to an ambient violation (including emissions of $PM_{2.5}$ precursors SO_2, TSP, and NO_x).[60]

The Draft Title V Renewal Permit does not require Unit 6 to meet any of these requirements with respect to $PM_{2.5}$. In fact, in issuing the Draft Title V Renewal Permit, DAQ failed to assess the impact of direct $PM_{2.5}$ emissions, and emissions of $PM_{2.5}$ precursors, on the four North Carolina counties either designated as nonattainment for $PM_{2.5}$ or with design values

[59] Incorporated by reference in 15A N.C.A.C. 2D.0530 (g) ("Major stationary sources and major modifications shall comply with the requirements . . . in 40 C.F.R. 51.166(j) through (o) and (w).").
[60] 15A N.C. Admin. Code 02D.0532.

showing current nonattainment. DAQ's failure to assess this impact violates North Carolina's SIP-approved PSD rules.

In 2004, EPA designated Catawba, Davidson and Guilford counties as nonattainment for $PM_{2.5}$.[61] More recent data show that those counties continue to exceed the National Ambient Air Quality annual standard ("NAAQS") for $PM_{2.5}$; the recent data also show that Mecklenburg County now violates the standard as well, with a design value of 15.3 mg/cm3 for the 2003-2005 time period. Catawba County is adjacent to Cleveland County, just northeast of the Cliffside site; Mecklenburg is one county to the east; and the Triad just slightly further to the East. Given its location, emissions from Cliffside very likely contribute to $PM_{2.5}$ nonattainment in Catawba, Davidson, Guilford and Mecklenburg counties—particularly during the summer months, when the prevailing winds are from the southwest.[62]

By not requiring Duke to perform modeling for $PM_{2.5}$, DAQ has failed to execute its duty to protect public health and the environment by ensuring that Unit 6 would not cause or contribute to violation of the $PM_{2.5}$ ambient air quality standards. DAQ may not issue a Title V permit for Cliffside Unit 6 unless and until Duke has demonstrated that emissions of $PM_{2.5}$ from Cliffside Unit 6 would not cause or contribute to a violation of the air quality standard for $PM_{2.5}$.

3. The PM_{10} Limits for Unit 6 Do Not Reflect BACT.

DAQ failed to conduct a complete analysis of PM_{10} BACT limits that have been proposed or required for coal-fired power plants and of PM_{10} emission rates that have been achieved in practice. The Draft Title V Renewal Permit contains a filterable PM_{10} BACT limit

[61] See http://www.epa.gov/pmdesignations/regions/region4desig.htm (consulted October 26, 2007).
[62] This is consistent with documentation submitted by North Carolina to EPA in 2004, at the time of designation of $PM_{2.5}$ nonattainment areas in the state, showing that most of North Carolina's $PM_{2.5}$ pollution comes from in-state sources. See *Catawba and Davidson Counties HYSPLIT Back-Trajectory Analysis to Determine $PM_{2.5}$ Source Regions*, January 22, 2004 (both the Catawba and Davidson County monitors, North Carolina is the primary source region for the vast majority of days studied) available at http://www.epa.gov/cair/pdfs/tsd0006.pdf.

for Unit 6 of 0.012 lb/MMBtu and a total (i.e., filterable plus condensibles) PM_{10} BACT limit of 0.018 lb/MMBtu. DAQ has proposed that these limits could be relaxed to 0.015 lb/MMBtu for filterable PM_{10} and to 0.024 lb/MMBtu for total PM_{10} if Duke demonstrates that it has trouble achieving the more stringent limits. None of these limits reflects BACT.

Several proposed or final filterable PM_{10} BACT limits for coal-fired power plants are lower than 0.012 and lower than 0.015 lb/MMBtu. According to the National Park Service, three coal-fired power plants have proposed filterable PM_{10} BACT limits of 0.010 lb/MMBtu, and nine additional coal-fired power plants have proposed or final PM_{10} BACT limits of 0.012 lb/MMBtu. Attachment 8 to Petitioners' October 30, 2008 comments (Tab 4 Att. 8). Although DAQ considered recent power plant proposals that were not in the RACT/BACT/LAER Clearinghouse, DAQ failed to identify any facility with a proposed filterable PM_{10} limit less than 0.015 lb/MMBtu. DAQ ignored in its BACT review the numerous examples of lower filterable PM_{10} emission limits proposed or final for coal-fired power plants.

A filterable PM_{10} BACT limit of 0.009 lb/MMBtu or lower should be readily achievable at Cliffside Unit 6. Results from recent stack tests of Florida coal-burning steam generating units demonstrate that more than half of the units tested were meeting PM/PM_{10} emission rates of 0.0090 lb/MMBtu or lower, with the lowest emission rate achieved being 0.0004 lb/MMBtu at JEA Northside Unit 2. See Exhibit 4 to Environmental Defense et al.'s April 29, 2005 comment letter to EPA on its proposed New Source Performance Standards revisions for steam generating units. Attachment 9 to Petitioners' October 30, 2008 comments (Tab 4 Att. 9). PM/PM_{10} stack test data for Unit 2 of the Craig power plant shows that, on average, the unit is emitting PM at 0.005 lb/MMBtu, which is significantly lower than the 0.012-0.015 lb/MMBtu range of filterable

PM_{10} emission limit proposed by DAQ as BACT at Cliffside Unit 6. See id. at Exhibit 5. All of these units have fabric filters for particulate control, as proposed for Unit 6 at Cliffside.

The Northampton facility has a total PM_{10} BACT limit of 0.0088 lb/MMBtu, which is also much lower than the proposed total BACT limit for Cliffside Unit 6 of 0.018-0.024 lb/MMBtu. Further, the Northampton facility is emitting total PM at 0.0043 lb/MMBtu on average based on the stack test data. See Tab 4, Att. 9, Ex. 6. Again, DAQ failed to address these much lower PM_{10} BACT limits in its review of total PM_{10} BACT for Cliffside Unit 6.

Additionally, DAQ has not justified its proposal to relax its proposed filterable PM_{10} BACT limit from 0.012 lb/MMBtu to 0.015 lb/MMBtu or revise its proposed total PM_{10} BACT limit from 0.018 lb/MMBtu to 0.024 lb/MMBtu.

4. DAQ Failed to Conduct Any BACT Review for Lead.

DAQ did not conduct an independent BACT review for lead, and instead merely stated in its PSD Final Determination for Unit 6 that because lead exists as PM_{10} at operating temperatures of the proposed fabric filter, it is readily collected with filterable PM_{10}, and that because "the emissions controls for lead are the same as for PM_{10}, and since the proposed units [sic] will employ BACT for PM_{10}, they will also employ BACT for lead."

However, a review of power plant lead BACT limits in the RACT/BACT/LAER Clearinghouse reveals that the proposed 0.000022 lb/MMBtu limit for Unit 6 at Cliffside is not BACT. For example, Santee Cooper Cross Generating Station is subject to a limit of 0.0000169 lb/MMBtu. The Spurlock Station has a lead BACT limit of 0.0000063 lb/MMBtu. Kentucky Mountain Power has a lead BACT limit of 0.0000194 lb/MMBtu. Several other facilities have lead BACT limits of 0.000020 lb/MMBtu. Thus, the proposed lead BACT limit for Cliffside

Unit 6 does not reflect BACT limits for lead. The proposed lead BACT limit in the Draft Title V Renewal Permit is unjustified and unlawful and the Administrator must object to it.

5. The BACT Emission Limits May Not Allow Excess Emissions During Startup, Shutdown or Malfunction.

EPA has long held that emission limitations in PSD permits apply at all times and may not be waived during periods of startup and shutdown. See In Re: Louisville Gas and Electric Company, Partial Order Responding to March 2, 2006 Petition and Denying in Part and Granting In Part Request (Adm'r Sept. 10, 2008) ("LGE Order") at 10; Memorandum from John B. Rasnic, EPA Stationary Source Compliance Division, to Linda M. Murphy, EPA Region 1, *Automatic or Blanket Exemptions for Excess Emissions During Startup, and Shutdowns Under PSD)* (Jan. 28, 1993) (Tab 4 Att. 11) (specifically prohibiting automatic exemptions from BACT emission limits, and informing states to use enforcement discretion in determining whether to enforce for violations of BACT emission limits). Section 302(k) of the Clean Air Act expressly defines the term "emission limitation" as a limitation on emissions of air pollutants "on a continuous basis." Section 169(3) of the Clean Air Act, in turn, defines BACT as an "emission limitation." Accordingly, the Clean Air Act mandates that BACT continuously limit emissions of air pollutants, including periods of startups, shutdowns and malfunctions ("SSM").

EPA recently reiterated this long-standing position, stating that "[a] PSD BACT limit must apply at all times, unless the permitting authority determines the need to establish alternative BACT limits for periods of startup or shutdown, and justifies such limits as part of a complete BACT analysis." LGE Order at 10, citing RockGen Energy Center, 8 E.A.D. at 554. To establish a work practice standard as an alternative BACT limit during such periods, the permitting authority must determine that technological or economic limitations on the

application of a measurement methodology to a particular unit would make the imposition of an emissions standard infeasible during such periods. See 40 C.F.R. § 51.166(b)(12).

The Draft Title V Renewal Permit violates the prohibition on exemptions from BACT emission limits during SSM. For example, the Permit states:

> BACT emission limits [for materials handing sources] shall apply at all times. However, emissions resulting from startup, shutdown or malfunction as defined in under [sic] 15A NCAC 2D .0535, exceeding above limits in Section 2.2 A.1.a. Table are permitted, provided that the Permittee to the extent practicable, maintains and operates each emission source including any associated air pollution control equipment listed in this Table, in a manner consistent with good air pollution control practice for minimizing emissions.

Draft Title V Renewal Permit (Tab 1) at 70. Similarly, proposed Condition J.2.d. and g. appear to exempt Unit 6 from PM_{10} BACT emission limits during SSM. Id. at 46. These provisions, and any other similar exemptions in the Draft Title V Renewal Permit, violate federal law and EPA guidance. DAQ failed to provide sufficient analysis to justify this exemption as an alternative BACT limit for periods of SSM. Therefore, the Administrator must object to the Draft Title V Renewal Permit.

6. The Particulate Matter BACT Limits and Requirements for Materials Handling Are Not Practicably Enforceable.

As EPA has stated in previous objection letters, permit conditions must be enforceable as a practical matter. See, e.g., EPA Objection Letter Re: Tampa Electric Company - Big Bend Station (Sept. 5, 2000) (Tab 40), 3-4. Permit conditions must contain sufficient detail to ensure that the source clearly understands its obligations and how compliance with these requirements will be evaluated. Id. at 4. Many of the BACT requirements to reduce particulate matter from materials handling associated with Unit 6 contained in the Draft Title V Renewal Permit are not clearly enforceable, and are therefore unlawful.

For example, the BACT requirement for the coal pile is "Good pile management and dust suppression (Water or chemical)." Draft Title V Renewal Permit (Tab 1) at 68. "Good pile management" is an arbitrary standard. This same requirement applies to the limestone storage pile, the gypsum storage pile, and the landfill for ash and gypsum. The BACT requirements for coal bulldozing and limestone bulldozing are "Dressing of working pile." The BACT requirement for facility haul roads is simply "Dust suppression (Water or chemical)." These requirements fail to provide any clear direction to Duke as to what it needs to do to comply with BACT to reduce particulate at these fugitive dust sources, and are therefore not enforceable requirements. Further, these requirements do not ensure that fugitive PM_{10} emissions will be kept at or below what was modeled for PM_{10} NAAQS, PSD increments and visibility impacts.

The Draft Permit also includes BACT emission limits for PM_{10} for materials handling in terms of pounds per 24 hours and tons per year. Presumably these emission rates reflect what Duke modeled for these sources in its NAAQS and other PSD modeling. Aside from the maximum throughput limits for railcar coal and limestone unloading and the gypsum stockout conveyer, there are no provisions in the permit that make clear how compliance with the pounds-per-24-hour or tons-per-year PM_{10} emission limits will be determined. Indeed, it is questionable that compliance with such pounds-per-day or tons-per-year limits can be determined or enforced at many of the materials handling emission sources. Further, there are also no provisions that detail how opacity is to be measured at the fugitive dust sources that have opacity BACT limits, or how frequently such observations must be made.

Thus, the proposed BACT limits and requirements for PM_{10} for materials handling do not meet a core requirement of any BACT requirement—enforceability. It follows that the PM_{10} NAAQS, increment and visibility modeling are also flawed.

7. The BACT Analysis for the Cooling Tower Is Flawed.

Neither Duke nor DAQ evaluated the possibility of a dry cooling tower system for Cliffside Unit 6. Such systems have no particulate emissions. Such a system has been proposed at the Desert Rock power plant to be located on Navajo Nation land. This facility is similar in size to Cliffside Unit 6, and will burn bituminous coal and utilize an SCR, a dry scrubber and a fabric filter similar to Unit 6. Thus, DAQ must evaluate this option for Unit 6 to eliminate the particulate matter emissions at the Unit 6 cooling tower as part of its BACT review for the cooling tower.

8. In Issuing the Draft Title V Renewal Permit, DAQ Failed to Consider Integrated Gasification Combined Cycle Technology in the BACT and Collateral Impacts and Alternatives Analyses for CO_2.[63]

a. Integrated Gasification Combined Cycle Must Be Considered in the BACT Analysis for Unit 6.

The Clean Air Act provides that "no major emitting facility . . . may be constructed . . . unless ... the facility is subject to the best available control technology for each pollutant subject to regulation under [the Act] emitted from, or which results from, such facility." 42 U.S.C. § 7475(a)(4). The Act defines best available control technology, or "BACT," as follows:

> The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application ***of production processes*** and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment ***or innovative fuel combustion techniques*** for control of each such pollutant.

42 U.S.C. § 7479(3) (emphasis added). EPA's PSD regulations include a substantively identical definition of BACT, 40 C.F.R. § 51.166(b)(12), which is incorporated by reference into the

[63] Appalachian Voices joins in this Petition with the exception of this Section, regarding Integrated Gasification Combined Cycle technology as BACT.

North Carolina PSD regulations, 15A N.C. Admin. Code 2D.0530 (2006) (incorporating by reference definitions in 40 C.F.R. § 51.166(b)). Thus, the BACT requirement must be implemented and construed under North Carolina law as it is under federal law.

The definition of BACT includes "production processes" or "innovative fuel combustion techniques." 42 U.S.C. § 7479(3). Integrated Gasification Combined Cycle ("IGCC") fits squarely within this definition: it is an innovative process or technique to extract energy from coal.

Petitioners' reading of the statute is bolstered by the legislative history of the Clean Air Act. Senator Huddleston of Kentucky, who proposed the addition of "innovative fuel combustion techniques" to the definition of BACT in the Act, explained his amendment to the Senate as follows:

> Mr. HUDDLESTON. Mr. President, the proposed provisions for application of best available control technology to all new major emission sources, although having the admirable intent of achieving consistently clean air through the required use of best controls, if not properly interpreted may deter the use of some of the most effective pollution controls.
>
> The definition in the committee bill of best available control technology indicates a consideration for various control strategies by including the phrase "through application of production processes and available methods systems, and techniques, including fuel cleaning or treatment." ***And I believe it is likely that the concept of BACT is intended to include such technologies as low Btu gasification and fluidized bed combustion***. But, this intention is not explicitly spelled out, and ***I am concerned that without clarification, the possibility of misinterpretation would remain***.
>
> ***It is the purpose of this amendment to leave no doubt that in determining best available control technology, all actions taken by the fuel user are to be taken into account***—be they the purchasing or production of fuels which may have been cleaned or up-graded through chemical treatment, ***gasification***, or liquefaction; use of combustion systems such as fluidized bed combustion which specifically reduce emissions and/or the post-combustion treatment of emissions with cleanup equipment like stack scrubbers.

> The purpose, as I say, is just to be more explicit, to make sure there is no chance of misinterpretation.

123 Cong. Rec. S9421, S9434-35 (June 10, 1977) (emphasis added). Congress recognized the existing "production processes" language should cover coal gasification, but added "innovative fuel combustion techniques" so as "to leave no doubt."

With respect to Unit 6, IGCC and pulverized coal are in the same source category: both are processes for creating electricity from coal-fired steam generation. Thus, including IGCC as a technology in a BACT analysis for a coal-fired power plant is not tantamount to redefining the source.

The EPA Environmental Appeals Board decision in In re: Prairie State Generating Co., PSD Appeal No. 05-05, slip op. at 28 (EAB Aug. 24, 2006), aff'd sub nom. Sierra Club v. United States EPA, 499 F.3d 653, 654-655 (7th Cir. 2007) also support Petitioners' position that IGCC should be considered as part of the BACT analysis. In Prairie State, the EAB held:

> [T]he permit issuer must be mindful that BACT, in most cases, should not be applied to regulate the applicant's objective or purpose for the proposed facility, and therefore, the permit issuer must discern which design elements are inherent to that purpose, articulated for reasons independent of air quality permitting, and which design elements may be changed to achieve pollutant emissions reductions without disrupting the applicant's basic business purpose for the proposed facility.

Id. This test does not distinguish between IGCC and pulverized coal. In fact, in Prairie State, the EAB specifically approved the agency's requiring the applicant to submit a detailed analysis of IGCC "to determine whether further emissions reductions would be achievable through inherently lower-polluting processes or methods while still achieving Prairie State's purpose or basic design for the Facility;" even though "selection of IGCC would have required extensive design changes to the . . . proposed Facility." Id. at 35-36. Thus, the EAB signaled that IGCC should be included in the BACT analysis even though "IGCC is not simply an add-on emissions

control technology, but instead would have required a completely redesigned 'power block.'" Id. In Sierra Club, the Seventh Circuit confirmed that the test of whether a technology should be considered in the BACT analysis is whether the technology that petitioners seek to change is an "inherent aspect" of the proposed project. 499 F.3d at 656. Here, the inherent purpose of Unit 6—converting coal to steam to generate electricity—is achieved by using either pulverized coal or IGCC technology. Therefore, the "inherent aspect" test does not distinguish between IGCC and pulverized coal and IGCC should be considered.

b. In Issuing the Draft Title V Renewal Permit, DAQ Also Failed to Consider IGCC in the "Alternatives" and "Collateral Impacts" Analyses.

DAQ failed to consider IGCC as an option to reduce the adverse health and environmental impacts of CO_2 when it analyzed project "alternatives" and the "collateral impacts" of other pollutants the proposed facility would emit as part of the preconstruction permitting process. Under the Clean Air Act, permitting agencies must consider "alternatives" to the proposed facility, air quality impacts, control technology requirements, and other "appropriate considerations." 42 U.S.C. § 7475(a)(2). This provision is distinct from the BACT analysis. In re East Ky. Power Coop. Inc, 2007 EPA CAA Title V LEXIS 11, 93 (Adm'r 2007) ("By listing 'alternatives' and 'control technology requirements' separately in section 165(a)(2), Congress distinguished 'alternatives' to the proposed source that would wholly replace the proposed facility with a different type of facility, from the kinds of 'production processes and available methods, systems and techniques' that are potentially applicable to a particular type of facility and should be considered in the BACT review.") See also Sierra Club v. United States EPA, 499 F.3d 653, 654-655 (7th Cir. 2007) ("Another provision of the Act, distinct from the one requiring adoption of the best available control technology, directs the EPA to consider

'alternatives' suggested by interested persons (such as the Sierra Club) to a proposed facility") (citing 42 U.S.C. § 7475(a)(2)).

In addition, even if, as here, a permitting agency improperly refuses to treat CO_2 as a PSD-regulated pollutant, it must consider the impact of CO_2 in the preconstruction BACT analysis for other pollutants. The Clean Air Act's definition of BACT calls for consideration of the technology's "energy, environmental, and economic impacts and other costs." 42 U.S.C. § 7479(3). This "collateral impacts" clause requires a permitting agency to consider impacts on human health and welfare and the environment from non-PSD regulated pollutants[64] in the BACT analysis. In re: Christian County Generation, LLC, 2008 EPA App. LEXIS 4, 15 (E.A.B. 2008) ("Among other things, the NSR Manual's recommended method for determining BACT includes consideration of the energy, environmental, and economic impacts of the available technologies, including any potential 'collateral impact' of the technology on pollutant emissions other than the pollutant to be controlled by the technology."). DAQ should have considered IGCC, a more efficient generating technology than pulverized coal, as an option to reduce emissions of CO_2. For the foregoing reasons, the Administrator must object to the Draft Title V Renewal Permit and direct DAQ to consider IGCC in the BACT and alternatives and collateral impacts analyses for Unit 6.

D. The Draft Title V Renewal Permit Does Not Assure Compliance with All Applicable Clean Air Act Requirements.

Federal law requires that a Title V permit contain conditions necessary to assure compliance by the source with all applicable requirements. 42 U.S.C. § 7661c(a) and 40 C.F.R. § 70.1(b). Accordingly, a Title V permit applicant must disclose its compliance status and either certify compliance or enter into an enforceable schedule of compliance to remedy violations. 42

[64] By advancing this alternative argument, Petitioners do not concede that CO_2 is not a regulated PSD pollutant, as discussed in detail above.

U.S.C. § 7661b(b); 40 C.F.R. § 70.5(c)(8-9). If a source is in compliance, it must provide a statement that it will continue to comply with the requirements of the CAA and will timely meet any additional applicable requirements that become effective during the permit term. 40 C.F.R. § 70.5(c)(8)(ii)(A), (B). If a source is not in compliance, it must develop a "schedule of compliance," outlining how it plans to come into compliance with "all applicable requirements" of the CAA. Id. § 70.5(c)(8)(iii)(C). The schedule of compliance must be included in the permit itself. 42 U.S.C. § 7661c(a).

Duke included in its amended Title V Renewal application (Tab 27), submitted on January 30, 2008, a Form E5, Title V Compliance Certification signed by Cliffside plant manager Rick Roper. The Certificate stated that Cliffside is in compliance with all applicable requirements. However, as detailed above, Duke violated federal and state law by (i) undertaking major modifications to Units 1-5 during the late 1980s and 1990s without obtaining PSD permits and without installing BACT; (ii) constructing Unit 6 without having undergone PSD review for NO_x and SO_2; and (iii) constructing Unit 6 without an approved MACT determination. Additionally, since October 31, 2008, when its construction permit for Unit 6 expired, Duke has been unlawfully constructing Unit 6 without a valid and effective construction permit.

Where, as here, a source is non-compliant, the Title V permit must include a compliance schedule. In light of EPA's NOV (Tab 4 Att.4) and Judge Thornburg's Order and Judgment (Tabs 20, 21), finding Duke in violation of CAA § 112(g) for commencing and continuing construction of Unit 6 without a MACT determination or MACT emission limits, it is clear that the Draft Title V Renewal Permit should have contained a compliance schedule. See N.Y. PIRG, 427 F.3d at 182 ("Issuance of a NOV indicates that the [permitting agency] has concluded

that a source is non-compliant. Once that has occurred, the EPA is obligated to include a compliance schedule."). Duke should have proposed a compliance schedule containing "an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the source will be in noncompliance at the time of permit issuance." See 40 C.F.R. § 70.5(c)(8)(iii)(C). A schedule of compliance consistent with the requirements of 40 C.F.R. § 70.5(c)(8) must then be included in the permit itself. See 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(c)(3). The Administrator must issue an objection to the Draft Title V Renewal Permit and direct DAQ to include a compliance schedule in the permit in accordance with federal law.

III. THE ADMINISTRATOR MUST OBJECT TO THE DRAFT RENEWAL PERMIT BECAUSE IT DOES NOT CONTAIN ADEQUATE REPORTING REQUIREMENTS TO ENSURE COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS AND APPLICABLE LAW.

A. Any Violation of the Opacity Limits of the Electric Utility Boilers Must Be Reported Immediately to DAQ.

Section 2.1.A.5.b of the Draft Title V Renewal Permit requires that the owner or operator of each electric utility boiler submit a monthly report to the Director of DAQ showing the calculated annual average opacity of each unit and the annual average opacity limit for each day of the previous month. However, this section of the permit fails to include the requirements of 15A N.C. Admin. Code 02D .0536(b) that the owner or operator of the electric utility boiler immediately notify the Director if a violation of the opacity limit occurs. Although the notification and reporting procedures for excess emissions and permit deviations are described in Section 3 - General Conditions (3.I.A), this section also does not require that a violation of the visible emissions limit be reported immediately to the Director, a clear violation of 15A N.C. Admin. Code 02D .0536(b).

B. Auxiliary Boiler ES-Aux 6 Should Be Subject to the Same Reporting Requirements for Opacity Limits as Auxiliary Boilers ES-6 (AuxB) and ES-7 (AuxB)

Section 2.1.K.4.c of the Draft Title V Renewal Permit states that "[n]o monitoring/recordkeeping/reporting is required for visible emissions from the firing of No. 2 fuel oil in [Auxiliary Boiler ES-Aux 6]," which is a new No. 2 fuel oil/propane-fired auxiliary boiler under the Unit 6 application. The two No. 2 fuel oil/propane-fired auxiliary boilers already in operation, ES-6 (AuxB) and ES-7 (AuxB), are subject to Method 9 monitoring protocol as well as associated recordkeeping (maintaining records of the use of No. 2 fuel oil and Method 9 testing) and reporting (submitting quarterly reports of the Method 9 test results) requirements. See Section 2.1.B.3.c-e. The new auxiliary boiler should be subject to the same monitoring, recordkeeping and reporting requirements as the No. 2 fuel oil/propane-fired auxiliary boilers already in operation. Therefore, the Administrator should object to the Draft Title V Renewal Permit and direct DAQ to amend Section 2.1.K.4.c to include the requirements provided in Section 2.1.B.3.c-e.

C. The Compliance Certificate Must Identify and Take into Account Each Deviation from the Permit and Must Identify Possible Compliance Exceptions.

Federal Clean Air Act regulations and North Carolina's SIP-approved rules require that Duke's annual compliance certification must identify and take into account each deviation, and identify as possible exceptions to compliance, any periods during which compliance is required and in which an excursion or exceedance, as defined in 40 C.F.R. § 64, occurred. 40 C.F.R. § 70.6(c)(5)(iii)(C), 15A N.C. Admin. Code 02Q .0508(n)(3)(B). The Draft Title V Renewal Permit does not require Duke to include this information in the compliance certificate, *see* Section 3.P, and is therefore unlawful.

D. Permit Deviations Prescribed in Section 3.I.A.3 Must be Reported Within Two Business Days.

Applicable Clean Air Act requirements provide that a Title V permit shall require the "prompt" reporting of deviations from permit requirements, the probable cause of such deviations, and any corrective actions or preventive measures taken. 42 U.S.C. § 7661b(b)(2); 40 C.F.R. § 70.6(a)(3)(iii)(B). DAQ defines "prompt," in the context of reporting all other deviations from permit requirements not covered under 15A N.C. Admin. Code 02D .0535, to mean reporting deviations "***within two business days*** after becoming aware of the deviation," including the probable cause of such deviation and any corrective or preventative measures taken. 15A N.C. Admin. Code 02Q .0508(f)(2) (emphasis added). Despite the two-business-days reporting requirement, the Draft Title V Renewal Permit requires that, for all other permit deviations not covered under 15A N.C. Admin. Code 02D .0535, Duke must notify either the Director or Regional Supervisor via written report on a ***quarterly basis***. Section 3.I.A.3. Quarterly reporting of deviations violates the two-business-days requirement in North Carolina's SIP-approved regulations, and therefore cannot constitute "prompt" reporting, in violation of Title V requirements. See N.Y. PIRG, 427 F.3d at 184 ("Quarterly reporting certainly contradicts [] Congress' explanation of prompt as meaning 'without delay.'"). Although the Second Circuit in N.Y. PIRG accorded some deference to the permitting authority to define "prompt" on a permit-by-permit basis, such deference is foreclosed here because North Carolina's approved SIP expressly defines "prompt" reporting as occurring within "2 business days." 15A N.C. Admin. Code 02Q .0508(f)(2). Accordingly, the Administrator must object to the Draft Title V Renewal Permit and direct DAQ to amend the permit to require that deviations referenced in Section 3.I.A.3 be reported within two business days.

III. THE ADMINISTRATOR MUST OBJECT TO THE DRAFT RENEWAL PERMIT BECAUSE DAQ FAILED TO PROVIDE ADEQUATE PUBLIC NOTICE AND ERRONEOUSLY DEPRIVED THE PUBLIC OF AN OPPORTUNITY TO BE HEARD.

A. The Public Notice for Draft Renewal Permit Is Defective.

North Carolina's SIP-approved Title V regulations provide that the public notice of a draft permit must include, among other things, "the activity or activities involved in the permit action" and "any emissions change involved in any permit modification." 15A N.C. Admin. Code 02Q .0521(c)(5) and (6). In its public notice for the Draft Title V Renewal Permit (Tab 28), DAQ failed to identify any activity involved in the permit action. In fact, DAQ did not even mention the name of the facility. DAQ simply stated that the (unnamed) facility has applied for an "Air Quality Title V Operation Permit" and DAQ intends to issue an air quality permit to Duke. DAQ should have alerted the public to the fact that the permit, if finalized, will authorize the operation of existing units 1-5, and construction of Unit 6 and the Unit 5 scrubber. DAQ's defective notice leaves members of the public to speculate, in the absence of any meaningful information, about what exactly the public notice is notifying them of. This omission frustrates the intent of the participation regulations and violates the express requirements of 15A N.C. Admin. Code 02Q .0521(c)(5). The public notice also fails to provide any information regarding "any emissions change involved in any permit modification," as required by 15A N.C. Admin. Code 02Q .0521(c) (6).

Because DAQ failed to include sufficient information regarding "the activity or activities involved in the permit action" in the public notice, the Administrator should object to the public notification for the Draft Title V Renewal Permit and require DAQ to revise and re-issue a public notice for the draft permit and re-open the public comment period to comply with public participation requirements.

B. DAQ Violated the Public Participation Requirements of Clean Air Act § 502(b)(6), 40 CFR § 70.7(h), and 15A N.C. Admin. Code 02Q .0521(f) by Inappropriately Denying Petitioners' Request for a Public Hearing.

Pursuant to 40 CFR § 70.7(h), "all permit proceedings, including initial permit issuance, significant modifications, and renewals, shall provide adequate procedures for public notice including offering an opportunity for public comment and a hearing on the draft permit." Moreover, North Carolina regulations provide that "[i]f the Director [of DAQ] finds that a public hearing is in the best interest of the public, the Director shall require a public hearing to be held on a draft permit." 15A N.C. Admin. Code 02Q .0521(f).

According to the public notice announcing the start of the public review period on the Draft Title V Renewal Permit, "[a] public hearing may be held if the Director of the DAQ determines that significant public interest exists or that the public interest will be served." DAQ's Public Notice of Intent to Issue An Air Quality Permit, September 30, 2008 (Tab 28). Accordingly, Petitioners requested a public hearing in the written comments they submitted to DAQ during the applicable public comment period. Petitioners submitted 62 pages of relevant comments to DAQ on the Draft Renewal Permit, including a four-paragraph explanation as to why a public hearing was necessary and in the public interest. Petitioners requested a hearing because they represent thousands of members who reside, work, and attend school in the vicinity of Cliffside and are affected by air pollution that Cliffside causes. Petitioners and their members have turned out in unprecedented numbers at several well-attended public hearings before the North Carolina Utilities Commission and DAQ to express their concerns regarding Cliffside's permitting. They, as well as all the members of the public, deserve a meaningful opportunity to comment to DAQ on this Draft Title V Renewal Permit in a public forum.

DAQ denied Petitioners' request. No public hearing was held and DAQ has not, as of this date, explained why it denied this request. DAQ appears to believe that the public is provided with an "opportunity" for a public hearing so long as the public has the opportunity to request a hearing and be denied. Petitioners disagree. Congress intended for the public to have a real opportunity to participate in Title V permitting by attending a public hearing on a draft permit. Nothing in the Clean Air Act or 40 C.F.R. Part 70 suggests that a permitting authority has discretion to refuse to hold a public hearing when one is requested. Even if DAQ retained such discretion, it could not exercise its discretion in an arbitrary and capricious manner. DAQ also appears to believe that a public hearing was not "in the best interest of the public." 15 A N.C. Admin. Code 02Q .0521(f). This assertion flies in the face of Petitioners' request on behalf of thousands of members of the public.

By refusing to hold a public hearing on the Draft Title V Renewal Permit, DAQ has violated the public participation requirements of Clean Air Act § 502(b)(6), 40 C.F.R. § 70.7(h), and 15A N.C. Admin. Code 02Q .0521(f). The Administrator must object to this Draft Title V Renewal Permit and direct DAQ to hold a public hearing in accordance with federal and state regulations.

V. THE ADMINISTRATOR MUST OBJECT TO THE DRAFT RENEWAL PERMIT BECAUSE IT DOES NOT CONTAIN ADEQUATE MONITORING REQUIREMENTS TO ENSURE COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS AND APPLICABLE LAW

A. The Opacity Values Were Unlawfully Removed as an Enforceable Permit Condition.

Pursuant to 15A N.C. Admin. Code 02D .0536(b), Units 1-5, individually, are subject to a PM limit of 0.25 lb/MMBtu. In its January 14, 2008 renewal application for Units 1-5, Duke proposed to use opacity as an indicator of emission control performance for the PM control

devices. Additionally, the provisions of Permit 04044T28, which were incorporated into the Title V renewal application by amendment on January 30, 2008, included three-hour block average opacity values of 35% for each boiler, to assure compliance with the particulate standard.

In the Draft Title V Renewal Permit, however, DAQ proposes to remove this provision from the Title V permit and include similar provisions in the Cliffside compliance assurance monitoring ("CAM") plan. Removal of this enforceable permit condition constitutes a relaxation of enforceable requirements of pre-existing Cliffside Title V permits and is therefore unlawful.

According to the savings provisions of the federal CAM regulations,

> Nothing in [40 C.F.R. Part 64] shall:
>
> (1) Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this part shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to title I of the Act. The purpose of this part is to require, as part of the issuance of a permit under title V of the Act, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.

40 C.F.R. § 64.10(a)(1); see also 15A N.C. Admin. Code 02D .0614(g)(1).

The CAM plan could be revised without undergoing a significant permit modification, whereas monitoring terms of a Title V permit cannot. See 15A N.C. Admin. Code 02Q .0516(b)(1). Therefore, if the PM monitoring requirements were taken out of the Title V context and instead placed into a CAM plan, DAQ would be potentially allowing for monitoring that is less stringent than what was required as an enforceable requirement in the existing Cliffside Title V permit. This is not allowed under the savings provisions of the state and federal CAM rules at

15A N.C. Admin. Code 02D .0614(g)(1) and 40 C.F.R. § 64.10(a)(1). Therefore, the Administrator must direct DAQ to include monitoring conditions adequate to assure compliance with PM emission limits in the Title V permit even if they also appear in the CAM plan. See 15A N.C. Admin. Code 02D .0614(e) and 40 C.F.R. § 64.6(c)(1).

B. The Opacity Monitoring Requirements Need to Be Improved.

Additionally, the opacity monitoring requirements in Section 2.A.4.f. of Permit No. 04044T28 must be improved in order for these requirements to provide a reasonable assurance of compliance with the PM emission limits of the North Carolina rules and North Caroline State Implementation Plan (SIP). First, the three-hour block 35% opacity provisions used to ensure compliance with the PM emission limits do not include periods of startup, shutdown, and periods of off-line maintenance. Section 2.A.4.f., Permit No. 04044T28. This has also been carried over into the proposed CAM plan for the PM emission limits. Cliffside CAM plan submitted January 14, 2008 at page 4. However, the North Carolina SIP rule that requires compliance with the PM emission limits does not provide for any exemptions for emissions during startup, shutdown, or offline maintenance. 15A N.C. Admin. Code 02D .0536. This makes sense because these types of activities are part of the normal operation of a source, and the emissions from startup, shutdown and off-line maintenance actually affect air quality. Given that the PM emission limits are part of the North Carolina SIP, these PM emission limits clearly apply at all times because the SIP is to provide for attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) on a continuous basis. Because the 35% opacity indicators do not take into account periods of startup, shutdown and off-line maintenance, the opacity requirements do not provide ***any*** indications of compliance with the PM emission limits during these periods. Thus, Duke and DAQ must develop a CAM plan to provide a reasonable assurance of compliance with

PM emission limits during periods of startup, shutdown, and off-line maintenance, and must incorporate the provisions of that plan as enforceable conditions of the Title V renewal permit for Cliffside.

Further, the documentation provided by Duke does not demonstrate that the indicator opacity thresholds of 35% actually ensure compliance with the 0.25 lb/MMBtu PM emission limits. Specifically, the graphs provided in Appendix A of the CAM plan for Cliffside show mass PM emission rates very close to or at the 0.25 lb/MMBtu PM emission limit with opacity levels of 35% or lower. These graphs indicate that the opacity thresholds, as indicators of compliance with the PM emission limit, should be lower, or that the CAM plan should include other additional parameters that need to be modeled to ensure compliance with this mass PM emission limits, such as process or control device parameters as required by 15A N.C. Admin. Code 02D .0614(d)(1) and 40 C.F.R.§ 64.3(a).

Further, to meet CAM requirements, Duke should be required to submit a revised CAM plan that ensures compliance with the mass PM emission limits during startup, shutdown and periods of off-line maintenance. Duke's revised CAM plan must include lower opacity indicator thresholds and potentially other parameters to be monitored to provide greater assurance of compliance with the mass PM emission limits of the North Carolina rules and SIP, as required by 15A N.C. Admin. Code 02D .0614 and 40 C.F.R. Part 64. The provisions of this revised CAM plan should then be incorporated into the Title V Renewal Permit.

CONCLUSION

For the foregoing reasons, Petitioners respectfully request that EPA grant this Petition and issue objections to the Draft Title V Renewal Permit based on the grounds detailed above.

This the 12th day of February, 2009.

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CERTIFICATE OF SERVICE

The undersigned attorney hereby certifies that the foregoing Petition to Object to Title V Renewal Permit for Cliffside Steam Station Proposed by the North Carolina Department of Environment and Natural Resources, Division of Air Quality, with all attachments thereto, has been served on the following by depositing a copy in the United States mail, first-class postage prepaid, addressed as follows:

James Palmer, Region 4 Administrator
United States Environmental Protection Agency
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Dee A. Freeman, Secretary
N.C. Division of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

B. Keith Overcash, Director
N.C. Division of Air Quality
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Mr. Rick R. Roper
Manager, Cliffside Steam Station
Duke Energy Carolinas, LLC
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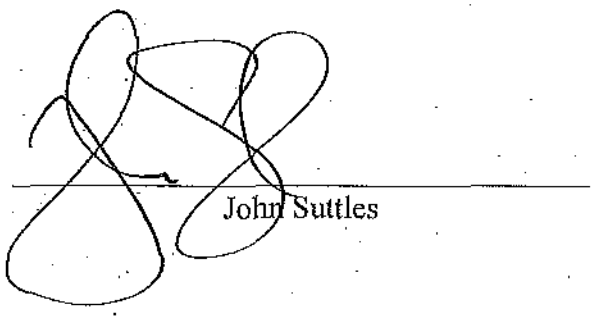
This the 12th day of February, 2009.



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