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February 24, 2015

Via e-mail to ashley.featherstone@buncombecounty.org

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806

Re: Sulfur Dioxide Pollution from Duke Energy's Asheville Steam Electric Plant

Dear Ms. Featherstone:

Thank you for taking the time to speak with me yesterday. As we discussed, the results of an air quality dispersion modeling analysis conducted on behalf of the Sierra Club that we released last week demonstrate that sulfur dioxide ("SO_2") emissions from Duke Energy Progress' Asheville Steam Electric Plant are causing unsafe ambient air conditions downwind of the Plant. (A report prepared by Air Resource Specialists, Inc. detailing that analysis is attached as Exhibit A.) Troublingly, the analysis reveals that, on one out of every three to four days, operation of the Plant causes SO_2 ambient air concentrations that are higher than the 75 parts per billion ("ppb") (equivalent to 196 micrograms per cubic meter ("$\mu g/m^3$")) National Ambient Air Quality Standard ("NAAQS") that was set by the U.S. Environmental Protection Agency ("EPA") in 2010. Indeed, SO_2 concentrations as high as 696 $\mu g/m^3$—nearly 3.5 times higher than EPA's health-based standard—were calculated. Areas with elevated SO_2 concentrations include parts of South Asheville, Fairview, and Leicester, as well as hiking trails in Bent Creek Forest. Given the fact that exposure to SO_2 for even very short periods of time can result in serious adverse health effects, there is real cause for concern by the communities within the area of impact.

In addition to the new modeling results, a separate analysis of the operations at the Asheville Plant indicates that, after an initial decline following the installation of the flue gas desulfurization systems (or "scrubbers"), SO_2 emission rates increased in 2008 and remained

higher than the rates that were being achieved during the first months of scrubber operation. (A report by Dr. Ranajit Sahu detailing that analysis is attached as Exhibit B.) For both of the coal-burning units at the Asheville Plant, the emission rate increases coincide with self-reported declines in Duke's annual scrubber efficiencies. Both scrubbers are designed to achieve 97% SO_2 removal efficiency, and, following their installation, both were tested and found to actually be removing more than 97% of the SO_2 generated in the Plant's two boilers. Nevertheless, in 2009, Duke reported scrubber efficiencies of 93.1% and 93.8% for Asheville Units 1 and 2, respectively. Between 2009 and 2012 (the latest year for which such data are available), Duke's self-reported annual scrubber efficiencies remained low, averaging around 93%. Independent calculations of actual scrubber performance paint an even worse picture: scrubber efficiency as low as 78% for Unit 2 in 2011.

The way Duke operates the equipment at its Asheville Plant determines the rate at which pollutants are released into the environment, and the new analysis demonstrates that the Plant's SO_2 emission rate increases are due mainly to the reduction in the efficiency of its scrubbers. That is, Duke appears to not be operating its pollution control equipment as that equipment was designed to be operated. In addition to the sub-par operation of the Plant's scrubbers, Dr. Sahu also examined the sulfur content of the coal that Duke has been burning at its Asheville Plant. Duke's own fuel type reporting shows that, after 2011, the sulfur content of the coal being burned at the Asheville Plant became more variable and increased from roughly 1% sulfur to more than 3% sulfur. Dr. Sahu concluded that the switch to burning cheaper coal with higher sulfur content likely contributed to the post-2011 emission rate increases at the Plant.

Given this new evidence of the connection between Duke's operational changes and the increased SO_2 emission rates at the Asheville Plant, the community downwind of the Plant is rightly concerned. Thus, we urge the Western North Carolina Regional Air Quality Agency ("WNCRAQA" or the "Agency") to give due consideration to the new evidence and to take all steps necessary to protect the public health and welfare and to ensure that Duke operates its Asheville Plant in accordance with the law.

As you know, the current Title V air operating permit for the Plant—which was issued by WNCRAQA on January 18, 2011 and expires on May 31, 2015—requires the Plant to be operated "with such control or in such a manner that the source shall not cause the ambient air quality standards in WNCRAQA Code 4.0400 to be exceeded at any point

beyond the premises on which the source is located." Air Quality Permit No. 11-628-10B, Sec. 5(II). The ambient air quality standards in that section of the Code include the 75 ppb limit for SO_2. *See* WNCRAQA Code § 4.402(d). That limit is being exceeded.

Moreover, the Permit also prohibits "pollution in contravention of local laws or rules," Air Quality Permit No. 11-628-10B, Sec. 5(A), and the Agency's regulations, like the Permit, require that the Plant be operated with pollution controls sufficient to ensure that emissions from the Plant do not cause an exceedance of the NAAQS, *see* WNCRAQA Code § 4.0501(c) ("any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards of Section .0400 of this Chapter to be exceeded at any point beyond the premises on which the source is located"); *see also* WNCRAQA Code § 4.0401(c) ("No facility or source of air pollution shall cause any ambient air quality standard in this Section to be exceeded or contribute to a violation of any ambient air quality standard in this Section.").

Given the air dispersion modeling results, which demonstrate that emissions from the Plant caused SO_2 concentrations greater than the 75 ppb NAAQS on approximately one out of every three days between August 2010 and July 2014 at downwind locations, it is clear that recent operations at the Asheville Plant do not comply with the Permit provisions and regulatory requirements identified above—*i.e.*, the narrative emission control standards that prohibit the exceedance of the NAAQS. The recent air dispersion modeling allows the Agency to translate this narrative standard into a more easily enforceable numerical emission limitation that ensures that SO_2 emissions from the Plant do not interfere with the attainment or maintenance of the NAAQS, that is more readily understood by the public, and that protects the health of the residents of Buncombe County.

As EPA has recognized, air dispersion modeling is the best way to assess SO_2 concentrations for NAAQS implementation purposes. In its final rule, EPA remarked upon the "strong source-oriented nature of SO_2 ambient impacts"[1] and concluded that the appropriate methodology for purposes of determining compliance, attainment, and nonattainment with the new NAAQS is air dispersion modeling.[2] In promulgating the SO_2

[1] U.S. EPA, Final Rule, Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. 35,520, 35,370 (June 22, 2010).

[2] *Id.* at 35,551 (describing dispersion modeling as "the most technically appropriate, efficient, and readily available method for assessing short-term ambient SO2 concentrations in areas with large point sources").

NAAQS, EPA explained further that "it is more appropriate and efficient to principally use modeling to assess compliance for medium to larger sources."[3]

EPA urges states to use modeling given its strengths and the weaknesses of the alternative, monitoring-based approach: "the current monitoring network provides relatively limited geographic coverage, and many monitors in the existing network are not sited with the objective of characterizing source-oriented maximum concentrations."[4] Indeed, the nearest air monitor (in Swain County) is 52 miles from Asheville and, therefore, is unable to provide an accurate representation of the Plant's effect on air quality. The modeling of emissions from the Asheville Plant was based on actual emissions data collected from the Plant's continuous emission monitoring system and meteorological data collected by the National Weather Service at the Asheville Regional Airport, which, given the airport's close proximity to the Plant, provide a reliable basis for understanding dispersion of the pollution. The experts who conducted the analysis utilized the air dispersion model developed and approved by EPA (AERMOD) and followed applicable federal and state modeling guidance. EPA's AERMOD has been rigorously field-tested, including in areas with complex, hilly terrain, and such testing shows a high correlation between monitored and modeled ambient pollutant concentrations.

The results of the air dispersion modeling analysis demonstrate that the numerical limit for SO_2 emissions included in the Permit (2.3 lbs/MMBtu) is not stringent enough to ensure compliance with the Permit's requirement that the Plant not cause exceedances of the NAAQS and, therefore, is inconsistent with that requirement. The modeled SO_2 emission rate that resulted in an AERMOD prediction equal to the 75 ppb NAAQS was 61.7 lb/hr for each unit (123.4 lbs/hr combined for Units 1 and 2). Based on the BTU rating of each boiler as listed in the Permit, this SO_2 emissions rate would equate to an average rate across both units of 0.029 lb/MMBtu. Thus, in order to ensure attainment and maintenance of the SO_2 NAAQS downwind of the Plant, a numerical emission limit *at least* as stringent as 123.4 lbs/hr or 0.029 lb/MMBtu is necessary. The analysis of Duke's operation of its Asheville scrubbers reveals that such a limit could be achieved if Duke operates its scrubbers

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[3] *Id.* at 35,570.

[4] U.S. EPA, Next Steps for Designations and Implementation of the Sulfur Dioxide National Ambient Air Quality Standard (Feb. 6, 2013), *available at* http://www.epa.gov/air/sulfurdioxide/pdfs/20130207SO2StrategyPaper.pdf.

consistent with their design specifications and switches to a fuel source with lower sulfur content. Both of these changes are feasible.

We urge the Agency to consider this information as it evaluates Duke's permit renewal application and to include in the draft permit a modeling-based SO_2 emissions limit that is calculated to ensure attainment and maintenance of the NAAQS at locations downwind of the Plant. We look forward to reviewing the draft permit and request that the Agency hold a public hearing as part of the permit renewal process. In the meantime, please let us know if we can provide any additional information that might assist the Agency in this process.

Thank you for your attention to and consideration of our concerns and please do not hesitate to contact me if you would like to discuss them further.

Sincerely,

Bridget M. Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
bridget.lee@sierraclub.org

ANALYSIS OF SCRUBBER OPERATION
DUKE ENERGY – ASHEVILLE POWER PLANT

Expert Report

Prepared by:
Dr. Ranajit Sahu

311 North Story Place
Alhambra, CA 91801
(702) 683-5466

February 16, 2015

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I. ABSTRACT

The two coal-fired units at the Duke-Progress Asheville power plant in North Carolina are equipped with relatively new (though not the most efficient, for their age) wet scrubbers for the removal of sulfur dioxide (SO2) from the exhaust gases from the units. However, it is clear, from the examination of data reported by the utility to the US Environmental Protection Agency (EPA) and the US Department of Energy (DoE), that: (a) just a few years after installation, the utility stopped operating its scrubbers at their design SO2 removal efficiencies; and (b) more recently, the utility has been using coal with higher sulfur content than previously. Both actions, individually and in combination, have caused each of the units to emit far greater amounts of SO2 than they were emitting (on a lb/million Btu basis) in the months after each scrubber was installed. Both actions (i.e., not running its scrubbers at or near their design efficiencies and using coal with higher sulfur content) reduce the operating costs for generating electricity sold by the utility thereby increasing its profits. Finally, I was asked to evaluate the plant's historic and current operations and whether its SO2 emissions have met or could meet a level of 123.4 pounds per hour from both units. I have determined that, as the units have operated and continue to operate, they currently emit SO2 in quantities greater than 123.4 pounds per hour for most time periods. However, if the utility uses low-sulfur coals used in the past and operates their scrubbers consistent with their design, the units could meet the 123.4 pounds per hour emission rate in the future.

II. INTRODUCTION

Asheville Units 1 and 2 in Arden, North Carolina, are drum-type units rated at net generating capacities of 200 MW and 194 MW respectively. They each include a single wall-fired boiler and reheat steam turbine with auxiliary facilities common to both units. Unit 1 went into commercial operation in 1964; Unit 2 joined it in 1971. Asheville Unit 1 was the first coal-fired unit to be retrofitted with a flue gas desulphurization (FGD) system (or scrubber) in North Carolina. That scrubber went into operation in late 2005. The scrubber for Unit 2 went into operation in mid-2006.

I have reviewed the current Title V operating permit[1] for the Asheville plant, which covers SO2 emissions from its two units. While Asheville operates under the permit with both numerical and narrative permit limits, the numerical limits in the permit are very weak and lenient such that they do not require operation of the scrubbers as designed (or at their full potential). The narrative limit provides a backstop that ensures that the plant does not cause unhealthy air; however, air dispersion modeling would need to be done to determine the numerical limit that is needed to comply with the narrative limit to ensure healthy air.

The Title V operating permit recognizes that each unit is equipped with a "flue gas desulfurization system," (or scrubber) but does not hold the scrubbers to any numerical operational standard noting, simply, that they can be "operated on an as-needed basis."[2]

Separately, the Title V operating permit states that each boiler's SO2 emissions limit is "2.3 pounds per million BTU heat input" (lb/MMBtu).[3] But, at 2.3 lb/MMBtu, this limit is typical of uncontrolled (i.e., pre-scrubber) SO2 emissions rather than emissions from a unit with an operating scrubber, as I discuss later. In fact, actual reported data (to the EPA[4] by the utility) shows that SO2 emissions ranged from 1.17 to 1.35 lb/MMBtu in 2003–2005[5], the years preceding installation of the scrubbers.

In addition, the Title V operating permit contains separate Clean Air Act Title IV SO2 annual limits (in tons per year) for each unit as follows: 6,633 tons per year for Unit 1 for 2010 and later years; and 5,271 tons per year for Unit 2 for 2010 and later years.[6]

The Title V operating permit contains separate SO2 annual limits (in tons per year) under the Clean Air Interstate Rule (CAIR) for each unit. Using the heat input rates for each unit as specified in the permit (i.e., 2,155 MMBtu/hr for Unit 1 and 2,102 MMBtu/hr for Unit 2),[7] and conservatively

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[1] Permit No. 11-628-10B, issued by the Western North Carolina Regional Air Quality Agency (WNCRAQA) to the Progress Energy Carolina, Inc., Asheville Steam Electric Plant, on January 18, 2011 (hereafter the "Title V operating permit").

[2] Title V operating permit, page 3 of 43, FN 3.

[3] Title V operating permit, page 4 of 43, Section 2.1.

[4] www.epa.gov/ampd.

[5] Unit 1 reported 1.17 lb/MMBtu in 2005; Unit 2 reported 1.35 lb/MMBtu in 2005. The reported values for either unit for the years 2003 and 2004 were within this range.

[6] Title V operating permit, pages 28 and 29 of 43.

[7] Title V operating permit, Section I, page 3 of 43.

assuming year-round (i.e., 24 hours per day and 365 days per year or 8760 hours per year) operation at full load,[8] these CAIR limits translate to SO2 emission rates of approximately 0.7 lb/MMBtu for Unit 1 and 0.57 lb/MMBtu for Unit 2. These rates are still much too high (to require operating the scrubbers at anywhere close to their design SO2 removal efficiencies) and easily achievable by operating the scrubbers at very low efficiencies. For example, using the actual 2004 (i.e., pre-scrubber) SO2 emission rate of 1.26 lb/MMBtu (i.e., the highest emission rate between years 2003–2005, pre-scrubber), Unit 1 would only need to operate its scrubber at an annual efficiency of 44.4% to achieve the 0.7 lb/MMBtu rate implied in the CAIR limit. Similarly, using the actual pre-scrubber 2005 SO2 emission rate (1.35 lb/MMBtu, i.e., the highest rate between 2003–2005, pre-scrubber), Unit 2 would only need to operate its scrubber at an efficiency of 57.8% to achieve its 0.57 lb/MMBtu rate implied in its CAIR limit. Of course, if one assumed less than 100% load for a full year, scrubber efficiencies would be lower still to meet the CAIR limits. For example, in 2013 Unit 1 had a total heat input of 6,249,326 MMBtus and Unit 1 had a total heat input of 8,277,515 MMBtus. Using these heat inputs, the CAIR limits translate to 2.12 lb/MMBtu for Unit 1 and 1.27 lb/MMBtu for Unit 2.[9] Thus, the CAIR limits in the Title V operating permit do not require that the scrubbers be operated efficiently or anywhere close to their design SO2 removal efficiencies as I discuss in the next section.

I note that the Title V operating permit states that "[I]n addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in WNCRAQA Code 4.0400 to be exceeded at any point beyond the premises on which the source is located."[10] This narrative requirement may be the most restrictive limit on the plant's operations. However, as stated above, air dispersion modeling would need to be conducted in order to calculate a numerical limit that would be adequately protective of human health.

Finally, the Asheville plant and its two units are subject to North Carolina's Clean Smokestacks Act, which currently limits the annual SO2 emissions from all of Progress's coal-fired units to 50,000 tons per year.[11] But this cap limit also includes several plants and units that have been shut down such as Cape Fear Units 5 and 6; Lee Units 1, 2, and 3; and Weatherspoon Units 1, 2, and 3.[12] The cap is not adjusted down as units are retired or shut down.

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[8] These (i.e., 8760 hours of operation at full load) are conservative assumptions—in favor of the plant—in that the calculated scrubber efficiency would be the highest (and the calculated SO2 rate the lowest) using these assumptions. I demonstrate that this is in fact the case using actual 2013 heat inputs for the units in later discussion.

[9] In comparison, had the scrubbers been operating at the design efficiency of 97% as I discuss in the next section, the SO2 emission rate should have been around 0.04 lb/MMBtu.

[10] See p. 39 of 43, Section (II) of the Title V operating permit.

[11] This cap did not change and was not affected by Duke's recent purchase of Progress's coal plants.

[12] See Appendix B, Table 1 of "Implementation of the Clean Smokestacks Act," NCDENR and NCUC, May 30, 2014.

III. DESIGN EFFICIENCIES OF THE ASHEVILLE SCRUBBERS

Based on statements made by the engineering contractor who designed the scrubber and by the utility itself, and on initial testing data reported by the utility to Federal agencies, the scrubbers at Units 1 and 2 were designed to achieve 97% removal efficiency of the SO2 exiting the boilers from typical coals that were being burned around 2003 (the approximate time frame when the scrubbers were designed). Proof of this is provided in the statements below.

The scrubbers were designed by Babcock and Wilcox (B&W). In a 2003 press release, B&W stated that "B&W's work will include the supply of flue gas desulfurization (FGD) units, more commonly called scrubbers, for Units 1 and 2 at Progress Energy's Asheville Steam Plant in Skyland, N.C. . . . The scrubber units at Asheville and Roxboro will be designed to achieve approximately 97 percent sulfur dioxide removal from the plants' emissions."[13]

"[A]s of November 16, 2005, at least 97% of the sulfur dioxide that had been emitted from the plant's boiler is now being removed. The FGD system for Unit 2, the second FGD to be placed in service in the state, went into operation May 17, 2006."[14]

Finally, as the utility had reported to the US DoE,[15] the tested efficiencies of the scrubbers in October 2006 were 97.7% for Unit 1 and 97.8% for Unit 2. These are reported at 100% load. Given the manner in which such wet scrubbers operate, their efficiencies should not be lower (or need not be lower) at lower loads, at which time inlet SO2 mass levels to the scrubbers are lower.

I note that most wet scrubbers installed at coal-fired power plants since even the mid-1990s were designed with SO2 removal efficiencies of at least 98% for the types of coal in use at Asheville both at the time the scrubbers came on line and at present. Lest it seem like quibbling there is a significant difference in SO2 emissions from a scrubber that is 98% efficient versus that which is 97% efficient, assuming the same SO2 at inlet of each. Simple mathematics dictates that the former (98% efficient scrubber), which emits 2% of the uncontrolled emissions will emit 67% of the SO2 emissions as compared to that emitted by the 97% efficient scrubber, which will emit 3% of the uncontrolled emissions.

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[13] http://www.businesswire.com/news/home/20030617005470/en/Babcock-Wilcox-Signs-Scrubber-Alliance#.VCd8kvldVIE. Press Release June 17, 2003.

[14] http://www.powermag.com/case-histories-asheville-power-stations-retrofit-first-to-meet-north-carolinas-clean-smokestacks-act/.

[15] Form EIA-923.

IV. ACTUAL EFFICIENCIES OF THE ASHEVILLE SCRUBBERS

Actual annual scrubber efficiencies at Asheville at 100% load are reported by the utility to the US DoE.[16] The latest year for which such data are available is 2012. Considering the data for the last several years, Table 1 below shows the reported scrubber efficiencies.

Table 1 – Reported Scrubber Efficiencies at 100% Load

Year	Reported Scrubber Efficiency – Unit 1	Reported Scrubber Efficiency – Unit 2
2009	93.1	93.8
2010	94.2	91.7
2011	93.2	90.7
2012	96.1	94.8

While we have no verification of how these numbers, at 100% load, were derived by the utility, they are reported to the US DoE and we accept them as such. As is obvious, scrubber efficiencies at each unit are significantly below the design 97% or the tested 97.7% (for Unit 1) and 97.8% (for Unit 2), as noted earlier.

In reality, annual scrubber efficiencies calculated under actual operating conditions were as low as 78% (for Unit 2 in 2011). Supporting calculations are provided in Table 2 in Attachment B to this report.

Lastly, although monthly scrubber efficiencies are not directly reported by the utility, they can be reasonably calculated by using data that the utility itself reports concerning the monthly coal consumption, heating value and sulfur content data (which are reported to the DoE/EIA) along with the SO2 emissions that are reported to the EPA. Using these data, it is also clear that scrubber efficiencies started decreasing just a few years after installation – typically after 2009. See supporting calculations in Table 3 in Attachment B.

Thus, it is clear that the plant is not operating the scrubbers at their design SO2 removal efficiencies. Instead the scrubbers are being operated at lower removal efficiencies, thereby allowing greater SO2 emissions to the atmosphere.

[16] Form EIA-923.

V. SCRUBBER OPERATION AND COSTS

As discussed, the units have wet scrubbers. In such systems, the exhaust of flue gases from the boiler are brought into contact with a sorbent (typically a liquid alkali like lime or limestone). This contact allows the SO2 in the exhaust gases to react with the sorbent, forming salts and thereby removing the SO2 from the exhaust.

Obviously constructing scrubbers requires money or capital costs. The utility has stated publicly that capital costs for the two scrubbers were around 190 million dollars. That cost was presumably passed on to ratepayers. Once constructed, it costs money to operate the scrubbers. These so-called "operating and maintenance" costs are typically divided into two sub-types: fixed operating and maintenance costs (FOM) and variable operating and maintenance costs (VOM). As the EPA notes FOM "represent expenses incurred regardless of the extent to which the emission control system is run."[17] They include costs for labor/staff, certain onging maintenance activities, as well as costs for administrative functions. While the FOM will depend on the size of the unit, for a given unit such as Asheville Unit 1 or 2, the FOM is generally fixed and does not depend on how the scrubber is operated. That is not the case with VOM. VOM represents costs that are explicitly tied to how much and how hard the emission control device is operated. As EPA notes, VOM includes "(a) costs for reagent (or sorbent) usage, (b) costs for waste generation, (c) make up water costs, and (d) cost of additional power required to run the control (often called the "parasitic load")."[18]

Thus, by not operating the scrubbers as designed (i.e., by operating them at lower efficiencies) the utility reduces its VOM costs.

[17] http://www.epa.gov/airmarkt/progsregs/epa-ipm/docs/v410/Chapter5.pdf.

[18] http://www.epa.gov/airmarkt/progsregs/epa-ipm/docs/v410/Chapter5.pdf.

VI. CHANGING COAL TYPE

As noted earlier, it appears that the utility is now using coal with a higher sulfur content than it had used previously in these units. Indeed, the utility's own reports to the US DoE show the sulfur contents in the coal burned at the two units (coal sulfur content data are shown in Table 2 in Attachment B).

It is worth noting that from early 2009 through roughly the first three quarters of 2011, the sulfur content of the coal burned at the units was: (a) consistent between the two units and (b) less than 1.6%. More specifically, the sulfur content was almost always 1% or lower in 2010, creeping up to between 1 and 1.6% in the first three quarters of 2011. Since that time however, as seen in Table 4, there is a lot more divergence in the sulfur contents of the coal burned at each unit and the levels of sulfur in the coal are often significantly greater than 1.6%. For example, the highest monthly sulfur content for Unit 1 coal was 3.27% and that for Unit 2 was 3.38% – or roughly double the sulfur content of the coals previously burned.

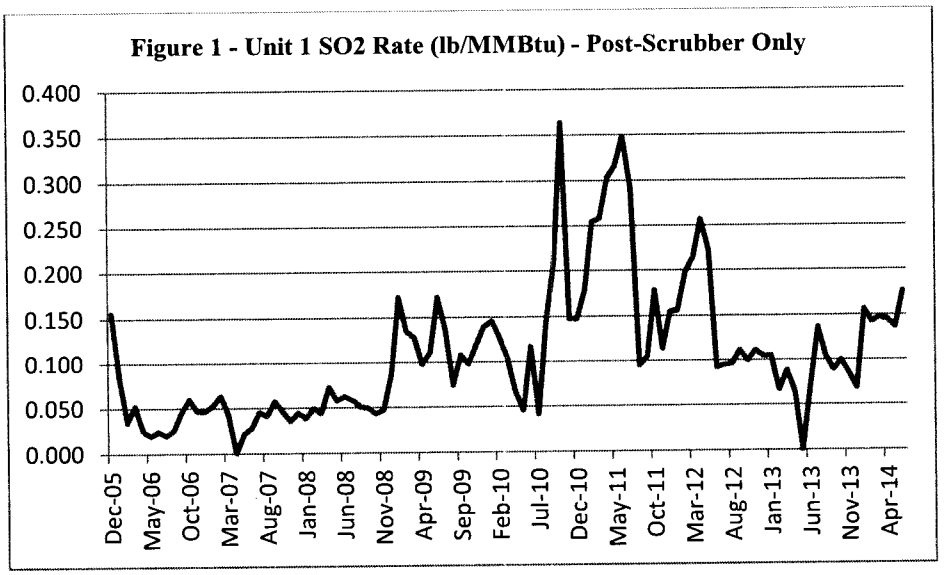
It is well known that, in general, the cost of higher-sulfur (i.e., dirtier) coal is lower than that of lower-sulfur coal. Thus, utilities that have installed scrubbers have incentives to burn higher-sulfur coals. For example, in an article titled "High Sulfur Coal Has Investors Glowing" in 2006, Duke Energy vice president Vince Stroud was reported as stating "[W]e're spending almost $4 billion as a company on various environmental plans, mostly for scrubbers, in the last few years, so we might as well go for the cheaper, high-sulfur coal."[19] Thus, it appears that, as part of this type of strategy, since around Q3 2011, the utility has been reducing its costs and saving money by burning dirtier, cheaper, higher-sulfur coal.

[19] See "High-Sulfur Coal Has Investors Glowing," April 24, 2006. Available at http://online.wsj.com/articles/SB114583391429033632.

VII. ACTUAL SO2 EMISSION RATES FOR THE ASHEVILLE PLANT

The first scrubber at Unit 1 began operating on November 6, 2005. Pre-scrubber SO2 emissions were typically in the range of 1.2 to 1.8 lb/MMBtu. And, as expected, SO2 emissions were lower after the scrubber was installed. Actual monthly emission rates as reported by the Utility to the US EPA are provided in Table 4 in Attachment B.

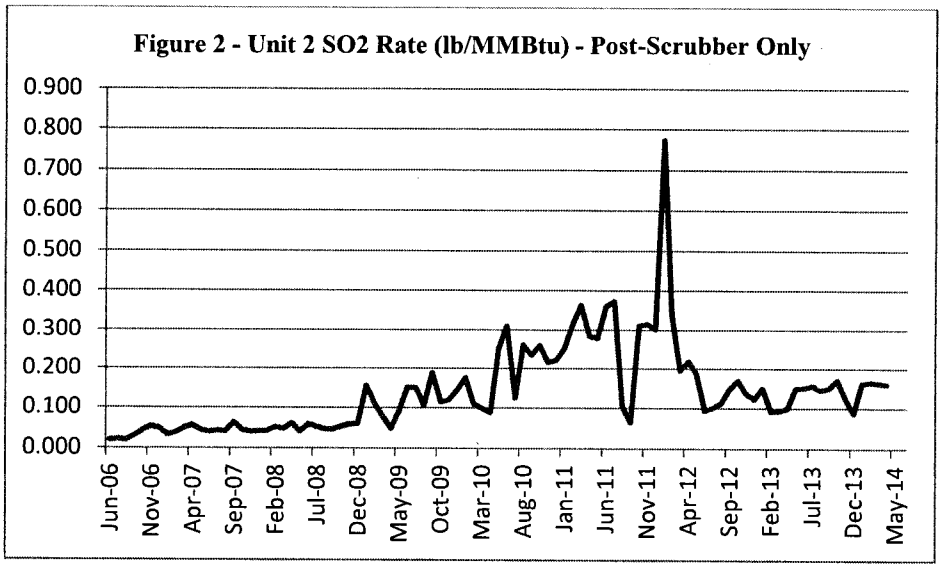
Table 4 shows that emission rates of 0.020–0.026 lb/MMBtu were being achieved in the months after the scrubber went into operation at Unit 1. However, the table also shows how the actual SO2 emission rates increased to over 0.3 lb/MMBtu in subsequent months/years. This increase is also shown in Figure 1 below.



While the increase in the SO2 emission rate (as compared to the low rates of 0.020–0.026 lb/MMBtu) through 2010-mid 2011 appears to be mainly due to a reduction in the efficiency of the scrubber (since the coal sulfur content is generally consistent), the higher SO2 emission rates since late 2011 are a combination of higher-sulfur coal usage along with lower scrubber efficiency.

Similar data are shown in the figure below for Unit 2. The scrubber began operating at this unit on May 26, 2006. Again, the initial reduction in the SO2 emission rate (from the pre-scrubber rate range of 1.2–1.8 lb/MMBtu) is readily seen in the monthly reported emissions data shown in Table 5 in Attachment B.

Like Unit 1, low rates of 0.019–0.022 lb/MMBtu were achieved by this unit's scrubber in the months after initial operation. Thereafter the SO2 emission rates increase as seen in Figure 2 below to over 0.7 lb/MMBtu, dropping to between 0.1–0.2 lb/MMBtu in recent months.



It is clear that, especially after 2009, the low rates obtained initially after the scrubber went into operation, were not repeated. While the rates have come down in late 2012 (as compared to the rates in 2010 and 2011), they are still nowhere as low as the rates in mid-2006. In fact, current rates are around 5–8 times greater than they were when the scrubber first went into operation.

As in the case of Unit 1, the increase in the SO2 rate at Unit 2 (as compared to the low rates of 0.019–0.022 lb/MMBtu) through 2010-mid 2011 appears to be mainly due to a reduction in the efficiency of the scrubber (since the coal sulfur content is generally consistent) while the higher SO2 emission rates in the latter part of 2011 into early 2012 appear to be a combination of higher-sulfur coal usage along with lower scrubber efficiency.

VIII. ACHIEVABLE SO2 EMISSION RATES FOR THE ASHEVILLE PLANT

Based on modeling conducted by others using the EPA-standard AERMOD model, the modeled SO2 emission rate that resulted in an AERMOD prediction equal to the 1-hour National Ambient Air Quality Standard (NAAQS) for SO2 was 7.78 grams per second (61.7 lb/hr for each unit or 123.4 lb/hr combined for Units 1 and 2). Based on the BTU rating of each boiler as listed in the Asheville Plant Title V operating permit (i.e., 2,155 MMBtu/hr at Unit 1 and 2,102 MMBtu/hr at Unit 2), the compliant SO2 emissions rate would equate to an average rate across both units of 0.029 lb/MMBtu. As discussed earlier, rates comparable this were being achieved in the months after the scrubbers went into operation.

Since midnight of January 1, 2011 (close to the issuance of the Title V operating permit on January 18, 2011) through midnight of December 31, 2013 there have been 26,304 calendar hours. During these hours, the combined actual SO2 emission rates of the two units exceeded the NAAQS-compliance requirement of 123.4 lb/hr on 19,518 hours or 74.2% of the time. It should be kept in mind that the calendar hours include many hours in which either one or both units did not operate. When considering just those hours when both units operated, the NAAQS-compliance requirement was exceeded in 82.6% of the hours. Thus, one can conclude that with the type of coal being burned at the units along with the manner in which the scrubbers are being operated, it is almost certain that the 1-hour SO2 NAAQS in the surrounding community is being exceeded.

However, if the utility operates the units with coal containing lower sulfur (as was the case when the scrubbers were designed) and also operates the scrubbers consistent with their design efficiency and consistent with their actual performance in the months after the scrubbers were full operational, it is likely that the combined SO2 emission rates from the two units would be below the value of 123.4 lb/hr for most hours.

APPENDIX A

RANAJIT (RON) SAHU, Ph.D, QEP, CEM (Nevada)

CONSULTANT, ENVIRONMENTAL AND ENERGY ISSUES

311 North Story Place
Alhambra, CA 91801
Phone: 702.683.5466
e-mail (preferred): sahuron@earthlink.net

EXPERIENCE SUMMARY

Dr. Sahu has over twenty three years of experience in the fields of environmental, mechanical, and chemical engineering including: program and project management services; design and specification of pollution control equipment for a wide range of emissions sources; soils and groundwater remediation including landfills as remedy; combustion engineering evaluations; energy studies; multimedia environmental regulatory compliance (involving statutes and regulations such as the Federal CAA and its Amendments, Clean Water Act, TSCA, RCRA, CERCLA, SARA, OSHA, NEPA as well as various related state statutes); transportation air quality impact analysis; multimedia compliance audits; multimedia permitting (including air quality NSR/PSD permitting, Title V permitting, NPDES permitting for industrial and storm water discharges, RCRA permitting, etc.), multimedia/multi-pathway human health risk assessments for toxics; air dispersion modeling; and regulatory strategy development and support including negotiation of consent agreements and orders.

Specifically, over the last 20+ years, Dr. Sahu has consulted on several municipal landfill related projects addressing landfill gas generation, landfill gas collection, and the treatment/disposal/control of such gases in combustion equipment such as engines, turbines, and flares. In particular, Dr. Sahu has executed numerous projects relating to flare emissions from sources such as landfills as well as refineries and chemical plants. He has served as a peer-reviewer for EPA in relation to flare combustion efficiency, flare destruction efficiency, and flaring emissions.

He has over twenty one years of project management experience and has successfully managed and executed numerous projects in this time period. This includes basic and applied research projects, design projects, regulatory compliance projects, permitting projects, energy studies, risk assessment projects, and projects involving the communication of environmental data and information to the public. Notably, he has successfully managed a complex soils and groundwater remediation project with a value of over $140 million involving soils characterization, development and implementation of the remediation strategy including construction of a CAMU/landfill and associated groundwater monitoring, regulatory and public interactions and other challenges.

He has provided consulting services to numerous private sector, public sector and public interest group clients. His major clients over the past twenty three years include various steel mills, petroleum refineries, cement companies, aerospace companies, power generation facilities, lawn and garden equipment manufacturers, spa manufacturers, chemical distribution facilities, and various entities in the public sector including EPA, the US Dept. of Justice, California DTSC, various municipalities, etc.). Dr. Sahu has performed projects in over 44 states, numerous local jurisdictions and internationally.

In addition to consulting, Dr. Sahu has taught numerous courses in several Southern California universities including UCLA (air pollution), UC Riverside (air pollution, process hazard analysis), and Loyola Marymount University (air pollution, risk assessment, hazardous waste management) for the past seventeen years. In this time period he has also taught at Caltech, his alma mater (various engineering courses), at the University of Southern California (air pollution controls) and at California State University, Fullerton (transportation and air quality).

Dr. Sahu has and continues to provide expert witness services in a number of environmental areas discussed above in both state and Federal courts as well as before administrative bodies.

EXPERIENCE RECORD

2000-present **Independent Consultant.** Providing a variety of private sector (industrial companies, land development companies, law firms, etc.) public sector (such as the US Department of Justice) and public interest group clients with project management, air quality consulting, waste remediation and management consulting, as well as regulatory and engineering support consulting services.

1995-2000 Parsons ES, **Associate, Senior Project Manager and Department Manager for** Air Quality/Geosciences/Hazardous Waste Groups, Pasadena. Responsible for the management of a group of approximately 24 air quality and environmental professionals, 15 geoscience, and 10 hazardous waste professionals providing full-service consulting, project management, regulatory compliance and A/E design assistance in all areas.

Parsons ES, **Manager for Air Source Testing Services**. Responsible for the management of 8 individuals in the area of air source testing and air regulatory permitting projects located in Bakersfield, California.

1992-1995 Engineering-Science, Inc. **Principal Engineer and Senior Project Manager** in the air quality department. Responsibilities included multimedia regulatory compliance and permitting (including hazardous and nuclear materials), air pollution engineering (emissions from stationary and mobile sources, control of criteria and air toxics, dispersion modeling, risk assessment, visibility analysis, odor analysis), supervisory functions and project management.

1990-1992 Engineering-Science, Inc. **Principal Engineer and Project Manager** in the air quality department. Responsibilities included permitting, tracking regulatory issues, technical analysis, and supervisory functions on numerous air, water, and hazardous waste projects. Responsibilities also include client and agency interfacing, project cost and schedule control, and reporting to internal and external upper management regarding project status.

1989-1990 Kinetics Technology International, Corp. **Development Engineer.** Involved in thermal engineering R&D and project work related to low-NOx ceramic radiant burners, fired heater NOx reduction, SCR design, and fired heater retrofitting.

1988-1989 Heat Transfer Research, Inc. **Research Engineer**. Involved in the design of fired heaters, heat exchangers, air coolers, and other non-fired equipment. Also did research in the area of heat exchanger tube vibrations.

EDUCATION

(b) (6)

[redacted]

TEACHING EXPERIENCE

Caltech

"Thermodynamics," Teaching Assistant, California Institute of Technology, 1983, 1987.

"Air Pollution Control," Teaching Assistant, California Institute of Technology, 1985.

"Caltech Secondary and High School Saturday Program," – taught various mathematics (algebra through calculus) and science (physics and chemistry) courses to high school students, 1983-1989.

"Heat Transfer," – taught this course in the Fall and Winter terms of 1994-1995 in the Division of Engineering and Applied Science.

"Thermodynamics and Heat Transfer," Fall and Winter Terms of 1996-1997.

U.C. Riverside, Extension

"Toxic and Hazardous Air Contaminants," University of California Extension Program, Riverside, California. Various years since 1992.

"Prevention and Management of Accidental Air Emissions," University of California Extension Program, Riverside, California. Various years since 1992.

"Air Pollution Control Systems and Strategies," University of California Extension Program, Riverside, California, Summer 1992-93, Summer 1993-1994.

"Air Pollution Calculations," University of California Extension Program, Riverside, California, Fall 1993-94, Winter 1993-94, Fall 1994-95.

"Process Safety Management," University of California Extension Program, Riverside, California. Various years since 1992-2010.

"Process Safety Management," University of California Extension Program, Riverside, California, at SCAQMD, Spring 1993-94.

"Advanced Hazard Analysis - A Special Course for LEPCs," University of California Extension Program, Riverside, California, taught at San Diego, California, Spring 1993-1994.

"Advanced Hazardous Waste Management," University of California Extension Program, Riverside, California. 2005.

Loyola Marymount University

"Fundamentals of Air Pollution - Regulations, Controls and Engineering," Loyola Marymount University, Dept. of Civil Engineering. Various years since 1993.

"Air Pollution Control," Loyola Marymount University, Dept. of Civil Engineering, Fall 1994.

"Environmental Risk Assessment," Loyola Marymount University, Dept. of Civil Engineering. Various years since 1998.

"Hazardous Waste Remediation," Loyola Marymount University, Dept. of Civil Engineering. Various years since 2006.

University of Southern California

"Air Pollution Controls," University of Southern California, Dept. of Civil Engineering, Fall 1993, Fall 1994.

"Air Pollution Fundamentals," University of Southern California, Dept. of Civil Engineering, Winter 1994.

University of California, Los Angeles

"Air Pollution Fundamentals," University of California, Los Angeles, Dept. of Civil and Environmental Engineering, Spring 1994, Spring 1999, Spring 2000, Spring 2003, Spring 2006, Spring 2007, Spring 2008, Spring 2009.

International Programs

"Environmental Planning and Management," 5 week program for visiting Chinese delegation, 1994.

"Environmental Planning and Management," 1 day program for visiting Russian delegation, 1995.

"Air Pollution Planning and Management," IEP, UCR, Spring 1996.

"Environmental Issues and Air Pollution," IEP, UCR, October 1996.

PROFESSIONAL AFFILIATIONS AND HONORS

President of India Gold Medal, IIT Kharagpur, India, 1983.

Member of the Alternatives Assessment Committee of the Grand Canyon Visibility Transport Commission, established by the Clean Air Act Amendments of 1990, 1992-present.

American Society of Mechanical Engineers: Los Angeles Section Executive Committee, Heat Transfer Division, and Fuels and Combustion Technology Division, 1987-present.

Air and Waste Management Association, West Coast Section, 1989-present.

PROFESSIONAL CERTIFICATIONS

EIT, California (# XE088305), 1993.

REA I, California (#07438), 2000.

Certified Permitting Professional, South Coast AQMD (#C8320), since 1993.

QEP, Institute of Professional Environmental Practice, since 2000.

CEM, State of Nevada (#EM-1699). Expiration 10/07/2011.

PUBLICATIONS (PARTIAL LIST)

"Physical Properties and Oxidation Rates of Chars from Bituminous Coals," with Y.A. Levendis, R.C. Flagan and G.R. Gavalas, *Fuel*, **67**, 275-283 (1988).

"Char Combustion: Measurement and Analysis of Particle Temperature Histories," with R.C. Flagan, G.R. Gavalas and P.S. Northrop, *Comb. Sci. Tech.* **60**, 215-230 (1988).

"On the Combustion of Bituminous Coal Chars," PhD Thesis, California Institute of Technology (1988).

"Optical Pyrometry: A Powerful Tool for Coal Combustion Diagnostics," *J. Coal Quality*, **8**, 17-22 (1989).

"Post-Ignition Transients in the Combustion of Single Char Particles," with Y.A. Levendis, R.C.Flagan and G.R. Gavalas, *Fuel*, **68**, 849-855 (1989).

"A Model for Single Particle Combustion of Bituminous Coal Char." Proc. ASME National Heat Transfer Conference, Philadelphia, **HTD-Vol. 106**, 505-513 (1989).

"Discrete Simulation of Cenospheric Coal-Char Combustion," with R.C. Flagan and G.R.Gavalas, *Combust. Flame*, **77**, 337-346 (1989).

"Particle Measurements in Coal Combustion," with R.C. Flagan, in "**Combustion Measurements**" (ed. N. Chigier), Hemisphere Publishing Corp. (1991).

"Cross Linking in Pore Structures and Its Effect on Reactivity," with G.R. Gavalas in preparation.

"Natural Frequencies and Mode Shapes of Straight Tubes," Proprietary Report for Heat Transfer Research Institute, Alhambra, CA (1990).

"Optimal Tube Layouts for Kamui SL-Series Exchangers," with K. Ishihara, Proprietary Report for Kamui Company Limited, Tokyo, Japan (1990).

"HTRI Process Heater Conceptual Design," Proprietary Report for Heat Transfer Research Institute, Alhambra, CA (1990).

"Asymptotic Theory of Transonic Wind Tunnel Wall Interference," with N.D. Malmuth and others, Arnold Engineering Development Center, Air Force Systems Command, USAF (1990).

"Gas Radiation in a Fired Heater Convection Section," Proprietary Report for Heat Transfer Research Institute, College Station, TX (1990).

"Heat Transfer and Pressure Drop in NTIW Heat Exchangers," Proprietary Report for Heat Transfer Research Institute, College Station, TX (1991).

"NOx Control and Thermal Design," Thermal Engineering Tech Briefs, (1994).

"From Puchase of Landmark Environmental Insurance to Remediation: Case Study in Henderson, Nevada," with Robin E. Bain and Jill Quillin, presented at the AQMA Annual Meeting, Florida, 2001.

"The Jones Act Contribution to Global Warming, Acid Rain and Toxic Air Contaminants," with Charles W. Botsford, presented at the AQMA Annual Meeting, Florida, 2001.

PRESENTATIONS (PARTIAL LIST)

"Pore Structure and Combustion Kinetics – Interpretation of Single Particle Temperature-Time Histories," with P.S. Northrop, R.C. Flagan and G.R. Gavalas, presented at the AIChE Annual Meeting, New York (1987).

"Measurement of Temperature-Time Histories of Burning Single Coal Char Particles," with R.C. Flagan, presented at the American Flame Research Committee Fall International Symposium, Pittsburgh, (1988).

"Physical Characterization of a Cenospheric Coal Char Burned at High Temperatures," with R.C. Flagan and G.R. Gavalas, presented at the Fall Meeting of the Western States Section of the Combustion Institute, Laguna Beach, California (1988).

"Control of Nitrogen Oxide Emissions in Gas Fired Heaters – The Retrofit Experience," with G. P. Croce and R. Patel, presented at the International Conference on Environmental Control of Combustion Processes (Jointly sponsored by the American Flame Research Committee and the Japan Flame Research Committee), Honolulu, Hawaii (1991).

"Air Toxics – Past, Present and the Future," presented at the Joint AIChE/AAEE Breakfast Meeting at the AIChE 1991 Annual Meeting, Los Angeles, California, November 17-22 (1991).

"Air Toxics Emissions and Risk Impacts from Automobiles Using Reformulated Gasolines," presented at the Third Annual Current Issues in Air Toxics Conference, Sacramento, California, November 9-10 (1992).

"Air Toxics from Mobile Sources," presented at the Environmental Health Sciences (ESE) Seminar Series, UCLA, Los Angeles, California, November 12, (1992).

"Kilns, Ovens, and Dryers - Present and Future," presented at the Gas Company Air Quality Permit Assistance Seminar, Industry Hills Sheraton, California, November 20, (1992).

"The Design and Implementation of Vehicle Scrapping Programs," presented at the 86th Annual Meeting of the Air and Waste Management Association, Denver, Colorado, June 12, 1993.

"Air Quality Planning and Control in Beijing, China," presented at the 87th Annual Meeting of the Air and Waste Management Association, Cincinnati, Ohio, June 19-24, 1994.

APPENDIX B

ADDITIONAL TABLES

Table 2 - Annual Scrubber Performance Analysis [Asheville Power Plant]

State	Facility Name	ORISPL	Unit	2003					2004				
				SO2 (tons)	Heat Input (MMBtu)	SO2 Rate (lb/MMBtu)	Operating Time	SO2 Control(s)	SO2 (tons)	Heat Input (MMBtu)	SO2 Rate (lb/MMBtu)	Operating Time	SO2 Control(s)
NC	**Asheville**	2706	1	8295	13320475	1.245	8587		6741	10702556	1.260	7017	
NC	**Asheville**	2706	2	7794	12289675	1.268	8543		7549	11721463	1.288	8327	
NC	Cape Fear	2708	5	5267	7487542	1.407	7636		6078	8391127	1.449	7392	
NC	Cape Fear	2708	6	6354	9079236	1.400	7242		6992	9515514	1.470	6986	
NC	H F Lee	2709	1	2776	4126574	1.345	6260		2031	3128967	1.298	5364	
NC	H F Lee	2709	2	2602	3889648	1.338	6177		2100	3287998	1.277	5346	
NC	H F Lee	2709	3	8371	12437962	1.346	6975		8713	13735915	1.269	7420	
NC	L V Sutton	2713	1	2565	4127943	1.243	6201		2431	4040144	1.203	6434	
NC	L V Sutton	2713	2	2941	4717205	1.247	6557		2986	4978523	1.200	6610	
NC	L V Sutton	2713	3	14775	23474850	1.259	8331		13533	21738415	1.245	7154	
NC	Mayo	6250	1A	12319	23408089	1.053	7763		14208	26619431	1.068	8695	
NC	Mayo	6250	1B	11622	22106057	1.051	7718		13351	25020309	1.067	8686	
NC	Roxboro	2712	1	18848	26064042	1.446	8760		17977	24314823	1.479	8326	
NC	Roxboro	2712	2	29904	40744834	1.468	7996		29000	38959753	1.489	8026	
NC	Roxboro	2712	3A	16692	22847103	1.461	8343		17250	22722492	1.518	8359	
NC	Roxboro	2712	3B	16353	22395317	1.460	8308		17166	22608314	1.519	8287	
NC	Roxboro	2712	4A	11370	21469218	1.059	8541		11158	21361340	1.045	8453	
NC	Roxboro	2712	4B	10771	20343164	1.059	8535		10710	20536698	1.043	8350	
NC	W H Weatherspoon	2716	1	1667	2052631	1.624	5409		1668	1975952	1.689	5683	
NC	W H Weatherspoon	2716	2	1896	2318642	1.635	5753		1606	1899517	1.691	5448	
NC	W H Weatherspoon	2716	3	3004	3675889	1.635	6273		2405	2910839	1.653	5407	
NC	All Units			196184					195656				
NC	Progress Clean Smokestacks Act			-					-				

Table 2 - Annual Scrubber Performance Anal

State	Facility Name	ORISPL	Unit	2005 SO2 (tons)	2005 Heat Input (MMBtu)	2005 SO2 Rate (lb/MMBtu)	2005 Operating Time	2005 SO2 Control(s)	2006 SO2 (tons)	2006 Heat Input (MMBtu)	2006 SO2 Rate (lb/MMBtu)	2006 CE	2006 Operating Time	2006 SO2 Control(s)
NC	**Asheville**	2706	1	6884	11808150	1.166	8223	Wet Lime FG	268	13318066	0.040	0.968	8085	Wet Lime FG
NC	**Asheville**	2706	2	8655	12851955	1.347	8420		2220	11143410	0.398		7231	Wet Lime FG
NC	Cape Fear	2708	5	5951	8264417	1.440	7636		5667	8135544	1.393		7755	
NC	Cape Fear	2708	6	7678	10881312	1.411	7653		7640	11041675	1.384		7911	
NC	H F Lee	2709	1	2816	4279197	1.316	6928		2537	4016709	1.263		6555	
NC	H F Lee	2709	2	2815	4408397	1.277	6828		2391	3913221	1.222		5974	
NC	H F Lee	2709	3	9372	14382666	1.303	7765		8833	13970082	1.265		7618	
NC	L V Sutton	2713	1	3210	5264842	1.220	7316		2848	4629725	1.230		6792	
NC	L V Sutton	2713	2	3679	6069989	1.212	7399		3211	5203884	1.234		6619	
NC	L V Sutton	2713	3	14257	23010941	1.239	7239		13100	20975938	1.249		7983	
NC	Mayo	6250	1A	14116	26733025	1.056	8524		12931	24549326	1.053		8222	
NC	Mayo	6250	1B	12960	24535628	1.056	8593		11568	21927028	1.055		8014	
NC	Roxboro	2712	1	18807	25377431	1.482	8603		17259	25494527	1.354		8391	
NC	Roxboro	2712	2	28211	37090983	1.521	7292		31760	47033163	1.351		8604	
NC	Roxboro	2712	3A	17121	21334748	1.605	8265		12078	17291517	1.397		7097	
NC	Roxboro	2712	3B	16788	20878869	1.608	8297		12749	18202492	1.401		7314	
NC	Roxboro	2712	4A	10696	21183147	1.010	8428		10894	21029565	1.036		8525	
NC	Roxboro	2712	4B	9821	19447408	1.010	8284		9887	19126308	1.034		8389	
NC	W H Weatherspoon	2716	1	2088	2494808	1.674	6679		1709	2047727	1.669		5520	
NC	W H Weatherspoon	2716	2	2014	2418856	1.665	6303		1763	2120634	1.663		5825	
NC	W H Weatherspoon	2716	3	4102	4931189	1.664	7209		3913	4620806	1.693		6260	
NC	All Units			202041					175226					
NC	Progress Clean Smokestacks Act			-					-					

Table 2 - Annual Scrubber Performance Anal

State	Facility Name	ORISPL	Unit	2007						2008					
				SO2 (tons)	Heat Input (MMBtu)	SO2 Rate (lb/MMBtu)	CE	Operating Time	SO2 Control(s)	SO2 (tons)	Heat Input (MMBtu)	SO2 Rate (lb/MMBtu)	CE	Operating Time	SO2 Control(s)
NC	**Asheville**	2706	1	241	10910350	0.044	0.965	7170	Wet Lime FGI	316	11492388	0.055	0.956	7804	Wet Lime FGI
NC	**Asheville**	2706	2	278	12585831	0.044	0.965	7961	Wet Lime FGI	286	11098434	0.052	0.960	7892	Wet Lime FGI
NC	Cape Fear	2708	5	5463	7973126	1.370		8314		4759	7034551	1.353		8049	
NC	Cape Fear	2708	6	7719	11299176	1.366		8292		6578	9750194	1.349		7827	
NC	H F Lee	2709	1	2921	4312727	1.355		7550		2765	4005289	1.380		6986	
NC	H F Lee	2709	2	3243	4800504	1.351		7805		2769	4027277	1.375		6813	
NC	H F Lee	2709	3	9321	13712263	1.360		7659		5660	8123317	1.393		5047	
NC	L V Sutton	2713	1	3461	5561073	1.245		7945		2792	4191414	1.332		6880	
NC	L V Sutton	2713	2	4251	6805586	1.249		8021		3592	5404098	1.330		7145	
NC	L V Sutton	2713	3	12680	19494051	1.301		6956		13076	19173018	1.364		7939	
NC	Mayo	6250	1A	12168	23322034	1.043		8025		11000	21612577	1.018		8360	
NC	Mayo	6250	1B	10642	20418908	1.042		7976		9072	17804376	1.019		7865	
NC	Roxboro	2712	1	15664	24121657	1.299		8053		13792	20921682	1.318		7649	Wet Lime FGI
NC	Roxboro	2712	2	7764	43213181	0.359		7753	Wet Lime FGI	863	43344702	0.040		8152	Wet Lime FGI
NC	Roxboro	2712	3A	13704	20760506	1.320		8255		4515	20878092	0.432		8117	Wet Limeston
NC	Roxboro	2712	3B	13152	19932931	1.320		8191		4251	20123961	0.423		7750	Wet Limeston
NC	Roxboro	2712	4A	7905	17102147	0.924		7512		531	22914647	0.046		8337	Wet Limeston
NC	Roxboro	2712	4B	7058	15250498	0.926		7503		484	20647333	0.047		8227	Wet Limeston
NC	W H Weatherspoon	2716	1	2297	2844280	1.616		7460		1785	2277953	1.567		6295	
NC	W H Weatherspoon	2716	2	2389	2958126	1.615		7649		1762	2241542	1.572		6126	
NC	W H Weatherspoon	2716	3	4919	5901011	1.667		7741		3573	4499288	1.588		6995	
NC	All Units			147241						94220					
NC	Progress Clean Smokestacks Act			-						-					

Table 2 - Annual Scrubber Performance Anal

State	Facility Name	ORISPL	Unit	2009						2010					
				SO2 (tons)	Heat Input (MMBtu)	SO2 Rate (lb/MMBtu)	CE	Operating Time	SO2 Control(s)	SO2 (tons)	Heat Input (MMBtu)	SO2 Rate (lb/MMBtu)	CE	Operating Time	SO2 Control(s)
NC	**Asheville**	2706	1	760	12102509	0.126	0.900	8536	WFGD	850	12873882	0.132	0.895	8247	WFGD
NC	**Asheville**	2706	2	630	10350507	0.122	0.905	8531	WFGD	1145	11714113	0.195	0.847	8169	WFGD
NC	Cape Fear	2708	5	4534	6660491	1.361		7102		5512	7595445	1.451		7900	
NC	Cape Fear	2708	6	6774	9864372	1.373		7464		7826	11213550	1.396		8049	
NC	H F Lee	2709	1	2231	3179784	1.403		5910		2884	4323412	1.334		7362	
NC	H F Lee	2709	2	2353	3447109	1.365		6051		2902	4455150	1.303		6995	
NC	H F Lee	2709	3	8363	11907758	1.405		7712		9744	14825114	1.315		8395	
NC	L V Sutton	2713	1	2613	3550794	1.472		5879		3388	4902752	1.382		7289	
NC	L V Sutton	2713	2	3307	4491372	1.473		6854		3579	5154616	1.389		6769	
NC	L V Sutton	2713	3	12027	16283839	1.477		7557		11861	16806163	1.412		6845	
NC	Mayo	6250	1A	3106	22034667	0.282		7521	WFGD (Bega	2772	26442797	0.210	0.802	8177	WFGD
NC	Mayo	6250	1B	2825	19864642	0.284		7583	WFGD (Bega	2597	24569147	0.211	0.800	8252	WFGD
NC	Roxboro	2712	1	1530	25316586	0.121		8449	WFGD	2140	26707158	0.160	0.890	8290	WFGD
NC	Roxboro	2712	2	3161	43432597	0.146	0.902	7788	WFGD	3071	38583729	0.159	0.892	6776	WFGD
NC	Roxboro	2712	3A	1235	20178902	0.122		8171	Wlime	2106	24937285	0.169	0.887	8539	Wlime
NC	Roxboro	2712	3B	1217	19741105	0.123		8013	Wlime	2095	24858622	0.169	0.887	8336	Wlime
NC	Roxboro	2712	4A	1259	20223248	0.125		8163	Wlime	1369	20419133	0.134	0.873	8085	Wlime
NC	Roxboro	2712	4B	1228	19702117	0.125		8274	Wlime	1333	20185047	0.132	0.874	8328	Wlime
NC	W H Weatherspoon	2716	1	659	768167	1.717		2389		1687	2048268	1.647		5641	
NC	W H Weatherspoon	2716	2	741	872048	1.699		2814		1553	1883791	1.649		5206	
NC	W H Weatherspoon	2716	3	1703	1973343	1.726		3972		3334	4057598	1.643		6575	
NC	All Units			62256						73748					
NC	Progress Clean Smokestacks Act			100000						100000					

Table 2 - Annual Scrubber Performance Anal

State	Facility Name	ORISPL	Unit	2011						2012					
				SO2 (tons)	Heat Input (MMBtu)	SO2 Rate (lb/MMBtu)	CE	Operating Time	SO2 Control(s)	SO2 (tons)	Heat Input (MMBtu)	SO2 Rate (lb/MMBtu)	CE	Operating Time	SO2 Control(s)
NC	**Asheville**	2706	1	1039	9794819	0.212	0.831	8263	WFGD	680	9132710	0.149	0.881	7591	WFGD
NC	**Asheville**	2706	2	1203	8443064	0.285	0.777	7825	WFGD	1132	10267129	0.221	0.827	8180	WFGD
NC	Cape Fear	2708	5	3415	4571872	1.494		5220		1169					
NC	Cape Fear	2708	6	4688	6486071	1.446		5090		2129					
NC	H F Lee	2709	1	1545	2160045	1.430		3746		744					
NC	H F Lee	2709	2	1015	1437249	1.413		2505		59					
NC	H F Lee	2709	3	7047	9891672	1.425		6004		5124					
NC	L V Sutton	2713	1	2048	2929725	1.398		4470		1332					
NC	L V Sutton	2713	2	2083	2894416	1.439		3984		1244					
NC	L V Sutton	2713	3	8850	12231066	1.447		6241		7755					
NC	Mayo	6250	1A	4053	21005427	0.386	0.636	7396	WFGD	6061					
NC	Mayo	6250	1B	3182	17264087	0.369	0.652	6851	WFGD						
NC	Roxboro	2712	1	1650	17404385	0.190	0.870	6630	WFGD	1980					
NC	Roxboro	2712	2	1864	24020328	0.155	0.895	5622	WFGD	4026					
NC	Roxboro	2712	3A	1383	19361707	0.143	0.904	7659	Wlime	3347					
NC	Roxboro	2712	3B	1336	18107500	0.148	0.901	7300	Wlime						
NC	Roxboro	2712	4A	1610	21159626	0.152	0.855	8431	Wlime	4019					
NC	Roxboro	2712	4B	1491	19364788	0.154	0.853	8292	Wlime						
NC	W H Weatherspoon	2716	1	226	279770	1.615		738							
NC	W H Weatherspoon	2716	2	545	700042	1.558		2211							
NC	W H Weatherspoon	2716	3	1143	1450189	1.576		2737							
NC	All Units			51416						40801					
NC	Progress Clean Smokestacks Act			100000						100000					

Table 2 - Annual Scrubber Performance Anal

State	Facility Name	ORISPL	Unit	2013						2014 (Through June)					
				SO2 (tons)	Heat Input (MMBtu)	SO2 Rate (lb/MMBtu)	CE	Operating Time	SO2 Control(s)	SO2 (tons)	Heat Input (MMBtu)	SO2 Rate (lb/MMBtu)	CE	Operating Time	SO2 Control(s)
NC	**Asheville**	2706	1	276	6249326	0.088	0.929	5953	WFGD	388	5142369	0.151	0.880	4087	WFGD
NC	**Asheville**	2706	2	542	8277515	0.131	0.898	8196	WFGD	304	3611032	0.168	0.868	2875	WFGD
NC	Cape Fear	2708	5												
NC	Cape Fear	2708	6												
NC	H F Lee	2709	1												
NC	H F Lee	2709	2												
NC	H F Lee	2709	3												
NC	L V Sutton	2713	1	1308											
NC	L V Sutton	2713	2	986											
NC	L V Sutton	2713	3	8187											
NC	Mayo	6250	1A	4570											
NC	Mayo	6250	1B												
NC	Roxboro	2712	1	2013											
NC	Roxboro	2712	2	4457											
NC	Roxboro	2712	3A	2968											
NC	Roxboro	2712	3B												
NC	Roxboro	2712	4A	3204											
NC	Roxboro	2712	4B												
NC	W H Weatherspoon	2716	1												
NC	W H Weatherspoon	2716	2												
NC	W H Weatherspoon	2716	3												
NC	All Units			28511											
NC	Progress Clean Smokestacks Act			50000											

Table 2 - Annual Scrubber Performance Anal

State	Facility Name	ORISPL	Unit	2014 Projection [from 2012 Plan]						
				Projected SO2 (tons/yr)	SO2 Rate w/2003 HI	CE 2013/2003	SO2 Rate w/2004 HI	CE 2013/2004	SO2 Rate w/2005 HI	CE 2013/2005
NC	**Asheville**	2706	1	578	0.087	0.930	0.108	0.914	0.098	0.916
NC	**Asheville**	2706	2	868	0.141	0.889	0.148	0.885	0.135	0.900
NC	Cape Fear	2708	5							
NC	Cape Fear	2708	6							
NC	H F Lee	2709	1							
NC	H F Lee	2709	2	18						
NC	H F Lee	2709	3	168						
NC	L V Sutton	2713	1							
NC	L V Sutton	2713	2							
NC	L V Sutton	2713	3							
NC	Mayo	6250	1A	3949	0.337	0.679	0.297	0.722	0.295	0.720
NC	Mayo	6250	1B							
NC	Roxboro	2712	1	542	0.042	0.971	0.045	0.970	0.043	0.971
NC	Roxboro	2712	2	3209	0.158	0.893	0.165	0.889	0.173	0.886
NC	Roxboro	2712	3A	1651	0.145	0.901	0.145	0.904	0.155	0.904
NC	Roxboro	2712	3B							
NC	Roxboro	2712	4A	2031	0.189	0.821	0.190	0.818	0.192	0.810
NC	Roxboro	2712	4B							
NC	W H Weatherspoon	2716	1							
NC	W H Weatherspoon	2716	2							
NC	W H Weatherspoon	2716	3							
NC	All Units			13014						
NC	Progress Clean Smokestacks Act			50000						

Table 3 - Monthly Scrubber Operation Analysis

Mon-Year	Asheville Unit 1													
	EIA-923 Coal (tons)	EIA-923 HV (MMBtu/ton)	EIA-923 %S	EIA-923 %Ash	Calculation HI (MMBtu/mo)	Calculation SO2 In (lb/MMBtu)	AMPD SO2 (tons)	AMPD Heat Input (MMBtu)	Calculation HI Comp	AMPD Operating Time	AMPD Gross Load (MW-h)	Calculation Av. MW	Calculation SO2 Out (lb/MMbtu)	Calculation Scrubber Eff.
Jan-09	57,009	24.400	1.00	13.3	1,391,020	1.64	106.2	1,237,717	12%	744	132830	178.5	0.172	0.895
Feb-09	44,850	25.100	0.90	10.6	1,125,735	1.43	67.5	1,000,051	13%	672	108574	161.6	0.135	0.906
Mar-09	47,021	24.800	1.00	11.3	1,166,121	1.61	69.4	1,089,118	7%	744	117160	157.5	0.127	0.921
Apr-09	44,488	25.000	0.90	11.7	1,112,200	1.44	52.3	1,070,429	4%	720	116623	162.0	0.098	0.932
May-09	37,885	24.700	0.90	11.9	935,760	1.46	49.3	889,671	5%	657.75	96377.25	146.5	0.111	0.924
Jun-09	42,632	24.700	1.00	11.9	1,053,010	1.62	85.4	995,001	6%	719.75	107564.25	149.4	0.172	0.894
Jul-09	44,726	24.700	1.00	11.8	1,104,732	1.62	71.5	1,044,102	6%	744	111754	150.2	0.137	0.915
Aug-09	42,933	24.800	0.70	11.2	1,064,738	1.13	37.9	1,024,588	4%	739.75	108160	146.2	0.074	0.934
Sep-09	37,944	25.000	1.00	10.3	948,600	1.60	48.7	902,061	5%	720	96424	133.9	0.108	0.933
Oct-09	33,921	24.800	1.00	11.5	841,241	1.61	39.3	804,001	5%	658	84867	129.0	0.098	0.939
Nov-09	40,364	25.000	0.90	11.4	1,009,100	1.44	57.7	974,862	4%	720	102953	143.0	0.118	0.918
Dec-09	46,658	24.500	1.00	12.0	1,143,121	1.63	74.7	1,070,910	7%	696.75	117916	169.2	0.140	0.915
Jan-10	47,643	24.000	1.05	11.9	1,143,432	1.75	78.7	1,083,510	6%	700	118252	168.9	0.145	0.917
Feb-10	44,570	24.700	1.13	10.3	1,100,879	1.83	66.8	1,052,688	5%	672	114107	169.8	0.127	0.931
Mar-10	45,282	24.500	1.17	12.7	1,109,409	1.91	53.0	1,022,160	9%	675.75	109749.5	162.4	0.104	0.946
Apr-10	52,688	24.400	1.10	11.6	1,285,587	1.80	39.9	1,203,130	7%	720	130823	181.7	0.066	0.963
May-10	51,744	24.100	1.00	13.0	1,247,030	1.66	26.4	1,169,411	7%	743.5	125358	168.6	0.045	0.973
Jun-10	48,863	24.000	1.37	14.2	1,172,712	2.28	66.7	1,141,098	3%	662.75	121635	183.5	0.117	0.949
Jul-10	48,026	24.500	1.11	13.2	1,176,637	1.81	23.2	1,124,359	5%	744	117205	157.5	0.041	0.977
Aug-10	46,230	23.600	1.58	15.8	1,091,028	2.68	74.2	1,039,849	5%	706	110339	156.3	0.143	0.947
Sep-10	38,873	23.700	1.57	14.3	921,290	2.65	91.9	886,586	4%	562.25	94830	168.7	0.207	0.922
Oct-10	39,488	23.900	1.44	14.7	943,763	2.41	163.0	898,342	5%	688	94887.5	137.9	0.363	0.849
Nov-10	43,265	23.900	1.42	14.7	1,034,034	2.38	73.7	999,335	3%	662.5	105885	159.8	0.148	0.938
Dec-10	54,504	23.700	1.30	14.9	1,291,745	2.19	92.4	1,253,413	3%	710	133412.25	187.9	0.147	0.933
Jan-11	53,492	24.300	1.18	12.1	1,299,856	1.94	108.5	1,229,132	6%	744	132656	178.3	0.177	0.909
Feb-11	38,344	25.100	1.32	10.8	962,434	2.10	113.1	891,069	8%	672	94684	140.9	0.254	0.879
Mar-11	38,575	24.000	1.32	12.6	925,800	2.20	112.1	868,598	7%	744	90678	121.9	0.258	0.883
Apr-11	25,595	24.000	1.49	13.7	614,280	2.48	86.1	568,890	8%	520.5	58946.5	113.2	0.303	0.878
May-11	28,256	24.300	1.20	13.7	686,621	1.98	96.3	609,943	13%	532.25	65131	122.4	0.316	0.840
Jun-11	36,240	23.900	1.46	14.2	866,136	2.44	141.0	810,657	7%	672.75	86455.25	128.5	0.348	0.858
Jul-11	43,885	24.600	1.31	12.7	1,079,571	2.13	140.0	961,895	12%	744	103750	139.4	0.291	0.863
Aug-11	41,324	24.400	1.16	12.2	1,008,306	1.90	44.3	930,928	8%	744	98730	132.7	0.095	0.950
Sep-11	36,464	25.000	1.32	12.0	911,600	2.11	42.7	817,632	11%	720	87308	121.3	0.105	0.950
Oct-11	30,923	24.700	2.47	10.1	763,798	4.00	60.1	676,543	13%	744	72025	96.8	0.178	0.956
Nov-11	34,432	24.500	2.63	9.7	843,584	4.29	43.0	755,674	12%	720	82578	114.7	0.114	0.973
Dec-11	30,257	24.800	2.70	8.8	750,374	4.35	51.9	673,858	11%	705.75	71816	101.8	0.154	0.965
Jan-12	747	24.800	1.56	10.4	18,526	2.52	3	33678	-45%	95	3007	31.7	0.156	0.938
Feb-12	24,168	25.100	1.57	10.5	606,617	2.50	53	533884	14%	462	58913	127.5	0.198	0.921
Mar-12	47,617	25.800	2.83	8.5	1,228,519	4.39	116	1080738	14%	736	119932	162.9	0.214	0.951
Apr-12	37,194	24.900	1.70	10.4	926,131	2.73	111	863673	7%	647	95751	148.1	0.257	0.906
May-12	44,561	25.300	2.69	8.8	1,127,393	4.25	119	1061594	6%	744	114305	153.6	0.223	0.948

Jun-12	37,011	25.500	2.36	9.3	943,781	3.70	41	897558	5%	720	94578	131.4	0.092	0.975
Jul-12	45,154	25.800	2.76	8.6	1,164,973	4.28	51	1064749	9%	744	115450	155.2	0.095	0.978
Aug-12	34,582	25.200	2.18	9.5	871,466	3.46	39	802944	9%	744	86024	115.6	0.096	0.972
Sep-12	23,563	24.700	1.53	10.9	582,006	2.48	31	555470	5%	597	59720	100.1	0.111	0.955
Oct-12	29,500	25.500	3.21	8.0	752,250	5.04	33	671649	12%	744	72284	97.2	0.100	0.980
Nov-12	36,795	25.500	3.27	8.2	938,273	5.13	49	875327	7%	720	93902	130.4	0.111	0.978
Dec-12	29,759	25.200	2.85	9.3	749,927	4.52	36	691447	8%	638	72337	113.4	0.105	0.977
Jan-13	31,971	25.700	3.09	7.9	821,655	4.81	40	757632	8%	744	78467	105.5	0.105	0.978
Feb-13	29,589	25.400	2.24	9.0	751,561	3.53	23	680224	10%	672	71231	106.0	0.067	0.981
Mar-13	31,993	25.300	1.03	10.6	809,423	1.63	34	776023	4%	687	82175	119.6	0.088	0.946
Apr-13	14,481	26.000	1.64	8.0	376,506	2.52	11	341080	10%	290	35856	123.5	0.065	0.974
May-13	0	0.000	0.00	0.0	-					0				
Jun-13	0	0.000	0.00	0.0	-		0	1888		53	0	0.0	0.070	
Jul-13	9,269	25.300	2.92	9.1	234,506	4.62	16	237347	-1%	315	24289	77.1	0.137	0.970
Aug-13	30,351	24.900	1.71	10.4	755,740	2.75	37	706957	7%	676	74883	110.8	0.104	0.962
Sep-13	20,538	25.000	1.82	9.9	513,450	2.91	22	484530	6%	478	50914	106.5	0.089	0.969
Oct-13	24,133	24.900	2.55	10.0	600,912	4.10	29	573934	5%	588	60511	102.9	0.100	0.976
Nov-13	34,815	25.300	1.95	10.5	880,820	3.08	36	844743	4%	705	90446	128.3	0.086	0.972
Dec-13	35,131	25.300	1.78	10.0	888,814	2.81	29	844967	5%	744	89437	120.2	0.068	0.976
Jan-14	39,669	24.600	2.28	9.3	975,857	3.71	74	948464	3%	689	102277	148.4	0.156	0.958
Feb-14	29,755	25.000	2.01	9.0	743,875	3.22	51	720730	3%	552	76977	139.4	0.142	0.956
Mar-14	37,341	24.900	1.95	9.5	929,791	3.13	69	936841	-1%	662	99518	150.3	0.148	0.953
Apr-14	36,505	25.100	2.48	9.9	916,276	3.95	65	905237	1%	720	95988	133.3	0.145	0.963
May-14	33,171	25.300	2.72	9.0	839,226	4.30	54	794895	6%	744	85326	114.7	0.137	0.968
Jun-14	34,511	25.500	3.20	8.2	880,031	5.02	73	836201	5%	720	89215	123.9	0.176	0.965

Table 3 - Monthly Scrubber Operation Analysis

Asheville Unit 2

Mon-Year	EIA-923 Coal (tons)	EIA-923 HV (MMBtu/ton)	EIA-923 %S	EIA-923 %Ash	Calculation HI (MMBtu/mo)	Calculation SO2 In (lb/MMBtu)	AMPD SO2 (tons)	AMPD Heat Input (MMBtu)	Calculation HI Comp	AMPD Operating Time	AMPD Gross Load (MW-h)	Calculation Av. MW	Calculation SO2 Out (lb/MMbtu)	Calculation Scrubber Eff.
Jan-09	50,048	24.400	1.00	13.3	1,221,171	1.64	87.935	1,129,841	8%	741	117901.25	159.1	0.156	0.905
Feb-09	34,307	25.100	0.90	10.6	861,106	1.43	44.535	802,959	7%	604.5	83964.25	138.9	0.111	0.923
Mar-09	41,503	24.800	1.00	5.9	1,029,274	1.61	38.249	992,270	4%	744	104185	140.0	0.077	0.952
Apr-09	32,396	25.000	0.90	11.7	809,900	1.44	20.072	835,667	-3%	720	86457	120.1	0.048	0.967
May-09	32,787	24.700	0.90	11.9	809,839	1.46	36.915	810,705	0%	674.5	82798	122.8	0.091	0.938
Jun-09	35,477	24.700	1.10	11.9	876,282	1.78	66.407	876,199	0%	720	89522	124.3	0.152	0.915
Jul-09	34,728	24.700	1.00	11.8	857,782	1.62	63.115	842,857	2%	743.75	86832	116.7	0.150	0.908
Aug-09	36,147	24.800	0.70	11.2	896,446	1.13	46.162	879,178	2%	744	90720	121.9	0.105	0.907
Sep-09	30,141	25.000	1.00	10.3	753,525	1.60	69.189	733,422	3%	711.75	76414.25	107.4	0.189	0.882
Oct-09	26,025	24.800	1.00	11.5	645,420	1.61	36.203	634,888	2%	663	65212	98.4	0.114	0.929
Nov-09	30,343	25.000	0.90	11.4	758,575	1.44	44.346	749,642	1%	720	76810	106.7	0.118	0.918
Dec-09	44,876	24.500	1.00	12.0	1,099,462	1.63	76.963	1,062,881	3%	744	112533	151.3	0.145	0.911
Jan-10	45,468	24.000	1.05	11.9	1,091,232	1.75	94.247	1,073,783	2%	743	112623.25	151.6	0.176	0.900
Feb-10	40,599	24.700	1.13	10.3	1,002,795	1.83	54.024	983,822	2%	672	103090	153.4	0.110	0.940
Mar-10	44,672	24.500	1.17	12.7	1,094,464	1.91	50.877	1,023,002	7%	744	108269	145.5	0.099	0.948
Apr-10	36,767	24.400	1.10	11.6	897,115	1.80	37.319	860,801	4%	544.25	90884.5	167.0	0.087	0.952
May-10	33,187	24.100	1.00	13.0	799,807	1.66	97.678	786,023	2%	552.75	79639	144.1	0.249	0.850
Jun-10	48,970	24.000	1.37	14.2	1,175,280	2.28	167.07	1,078,546	9%	657.25	116348.5	177.0	0.310	0.864
Jul-10	46,167	24.500	1.11	13.2	1,131,092	1.81	65.773	1,053,917	7%	744	112707	151.5	0.125	0.931
Aug-10	46,428	23.600	1.58	15.8	1,095,701	2.68	139.024	1,067,149	3%	744	111177	149.4	0.261	0.903
Sep-10	44,577	23.700	1.57	14.3	1,056,475	2.65	120.602	1,030,457	3%	720	108491	150.7	0.234	0.912
Oct-10	36,462	23.900	1.44	14.7	871,442	2.41	108.086	833,205	5%	695.5	86816.5	124.8	0.259	0.892
Nov-10	39,807	23.900	1.42	14.7	951,387	2.38	92.92	864,560	10%	681	96352.5	141.5	0.215	0.910
Dec-10	50,771	23.700	1.30	14.9	1,203,273	2.19	116.932	1,058,847	14%	671.5	122412.75	182.3	0.221	0.899
Jan-11	49,536	24.300	1.18	12.1	1,203,725	1.94	131.329	1,040,428	16%	743.5	120802.25	162.5	0.252	0.870
Feb-11	32,777	25.100	1.32	10.8	822,703	2.10	116.61	742,357	11%	672	79837	118.8	0.314	0.851
Mar-11	32,964	24.000	1.32	12.6	791,136	2.20	129.063	711,786	11%	744	76577	102.9	0.363	0.835
Apr-11	24,094	24.100	1.32	13.4	580,665	2.19	75.885	534,119	9%	607.5	55488.25	91.3	0.284	0.870
May-11	35,782	24.200	1.11	13.5	865,924	1.83	112.37	808,936	7%	744	86962	116.9	0.278	0.849
Jun-11	37,517	23.900	1.45	14.2	896,656	2.43	145.496	810,663	11%	720	87808	122.0	0.359	0.852
Jul-11	41,098	24.600	1.31	12.6	1,011,011	2.13	163.934	879,476	15%	744	95010	127.7	0.373	0.825
Aug-11	38,757	24.400	1.17	12.2	945,671	1.92	46.803	895,543	6%	744	91110	122.5	0.105	0.946
Sep-11	10,507	25.300	1.10	11.5	265,827	1.74	7.978	250,532	6%	217.25	25794	118.7	0.064	0.963
Oct-11	15,957	24.600	3.01	8.4	392,542	4.89	57.394	369,385	6%	426	37618.5	88.3	0.311	0.937
Nov-11	30,042	24.500	2.61	9.8	736,029	4.26	112.1	710,578	4%	719	71766	99.8	0.316	0.926
Dec-11	29,213	24.800	2.72	8.8	724,482	4.39	103.56	689,258	5%	744	69169	93.0	0.300	0.932
Jan-12	38,128	25.100	2.50	8.9	957,013	3.98	343	887405	8%	744	91493	123.0	0.773	0.806
Feb-12	35,899	25.200	1.57	10.6	904,655	2.49	145	853824	6%	692	88045	127.3	0.339	0.864
Mar-12	47,627	25.800	2.85	8.5	1,228,777	4.42	112	1148960	7%	744	117498	157.9	0.195	0.956
Apr-12	46,124	24.900	1.84	10.2	1,148,488	2.96	122	1118997	3%	720	114337	158.9	0.219	0.926
May-12	48,037	25.300	2.67	8.8	1,215,336	4.22	107	1148173	6%	744	119485	160.6	0.187	0.956

Jun-12	38,526	25.500	2.37	9.2	982,413	3.72	43	923068	6%	720	95107	132.1	0.093	0.975
Jul-12	45,122	25.800	2.76	8.6	1,164,148	4.28	54	1079917	8%	744	113154	152.1	0.101	0.977
Aug-12	31,386	25.300	2.14	9.5	794,066	3.38	43	773195	3%	744	77121	103.7	0.112	0.967
Sep-12	19,670	24.900	2.31	9.6	489,783	3.71	35	479033	2%	536	46321	86.3	0.147	0.960
Oct-12	13,276	25.400	3.38	8.0	337,210	5.32	28	329006	2%	389	32028	82.3	0.169	0.968
Nov-12	31,236	25.500	3.27	8.2	796,518	5.13	54	788164	1%	658	79169	120.2	0.136	0.973
Dec-12	30,023	25.200	2.96	9.2	756,580	4.70	45	737387	3%	744	73291	98.5	0.122	0.974
Jan-13	25,032	25.800	3.13	7.9	645,826	4.85	46	615323	5%	677	61400	90.7	0.150	0.969
Feb-13	24,046	25.400	2.18	9.1	610,768	3.43	27	580186	5%	672	57847	86.1	0.092	0.973
Mar-13	31,007	25.300	1.02	10.7	784,477	1.61	36	770917	2%	744	76582	102.9	0.092	0.943
Apr-13	28,148	25.900	1.83	8.2	729,033	2.83	34	699795	4%	643	70313	109.3	0.098	0.965
May-13	30,130	25.500	2.25	8.8	768,315	3.53	54	715082	7%	744	71595	96.2	0.150	0.958
Jun-13	32,247	25.200	2.22	10.8	812,624	3.52	59	779169	4%	720	78588	109.2	0.151	0.957
Jul-13	36,739	25.300	2.92	9.1	929,497	4.62	68	872598	7%	744	86252	115.9	0.156	0.966
Aug-13	31,619	24.900	1.84	10.3	787,313	2.96	56	768966	2%	744	75465	101.4	0.146	0.951
Sep-13	27,800	25.000	1.77	10.3	695,000	2.83	49	660712	5%	720	63876	88.7	0.150	0.947
Oct-13	26,202	24.900	2.64	10.1	652,430	4.24	58	676481	-4%	696	66550	95.7	0.171	0.960
Nov-13	14,280	25.400	1.89	10.1	362,712	2.98	23	367506	-1%	348	36560	105.0	0.124	0.958
Dec-13	31,302	25.300	1.77	10.0	791,941	2.80	33	770779	3%	744	77600	104.3	0.086	0.969
Jan-14	40,891	24.600	2.25	9.4	1,005,919	3.66	78	963580	4%	744	102087	137.2	0.162	0.956
Feb-14	33,711	25.000	2.07	9.0	842,775	3.31	67	811680	4%	672	84076	125.1	0.165	0.950
Mar-14	41,091	24.900	1.94	9.5	1,023,166	3.12	84	1022341	0%	744	104550	140.5	0.164	0.947
Apr-14	5,083	25.100	3.13	8.8	127,583	4.99	12	145200	-12%	95	14662	154.0	0.160	0.968
May-14	0	0.000	0.00	0.0	-		0	1387	-100%	16	0	0.0	0.000	
Jun-14	26,305	25.400	3.20	8.2	668,147	5.04	63	666844	0%	604	67848	112.3	0.190	0.962

Table 4 - Asheville Unit 1 Monthly Reported SO2 Emission Rates [1]	
Mon-Yr	Unit 1 SO2 Rate (lb/MMBtu)
December-05	0.156
January-06	0.083
February-06	0.034
March-06	0.052
April-06	0.025
May-06	0.02
June-06	0.024
July-06	0.02
August-06	0.026
September-06	0.045
October-06	0.059
November-06	0.047
December-06	0.046
January-07	0.052
February-07	0.063
March-07	0.042
April-07	
May-07	0.022
June-07	0.028
July-07	0.045
August-07	0.041
September-07	0.057
October-07	0.046
November-07	0.035
December-07	0.044
January-08	0.038
February-08	0.049
March-08	0.044
April-08	0.072
May-08	0.057
June-08	0.062
July-08	0.058
August-08	0.05
September-08	0.049
October-08	0.043
November-08	0.047
December-08	0.086
January-09	0.172
February-09	0.135
March-09	0.127
April-09	0.098
May-09	0.111
June-09	0.172
July-09	0.137

Table 4 - Asheville Unit 1 Monthly Reported SO2 Emission Rates [1]	
Mon-Yr	Unit 1 SO2 Rate (lb/MMBtu)
August-09	0.074
September-09	0.108
October-09	0.098
November-09	0.118
December-09	0.14
January-10	0.145
February-10	0.127
March-10	0.104
April-10	0.066
May-10	0.045
June-10	0.117
July-10	0.041
August-10	0.143
September-10	0.207
October-10	0.363
November-10	0.148
December-10	0.147
January-11	0.177
February-11	0.254
March-11	0.258
April-11	0.303
May-11	0.316
June-11	0.348
July-11	0.291
August-11	0.095
September-11	0.105
October-11	0.178
November-11	0.114
December-11	0.154
January-12	0.156
February-12	0.198
March-12	0.214
April-12	0.257
May-12	0.223
June-12	0.092
July-12	0.095
August-12	0.096
September-12	0.111
October-12	0.1
November-12	0.111
December-12	0.105
January-13	0.105
February-13	0.067
March-13	0.088

Table 4 - Asheville Unit 1 Monthly Reported SO2 Emission Rates [1]	
Mon-Yr	Unit 1 SO2 Rate (lb/MMBtu)
April-13	0.065
May-13	
June-13	0.07
July-13	0.137
August-13	0.104
September-13	0.089
October-13	0.1
November-13	0.086
December-13	0.068
January-14	0.156
February-14	0.142
March-14	0.148
April-14	0.145
May-14	0.137
June-14	0.176

[1] Blank indicates that the Unit was not operating that month.

Table 5 - Asheville Unit 2 Monthly Reported SO2 Emission Rates [1]	
Yr-Mon	Unit 2 SO2 Rate (lb/MMBtu)
June-06	0.02
July-06	0.022
August-06	0.019
September-06	0.029
October-06	0.043
November-06	0.052
December-06	0.048
January-07	0.032
February-07	0.038
March-07	0.049
April-07	0.055
May-07	0.044
June-07	0.04
July-07	0.043
August-07	0.041
September-07	0.063
October-07	0.043
November-07	0.04
December-07	0.041
January-08	0.042
February-08	0.051
March-08	0.047
April-08	0.06
May-08	0.041
June-08	0.058
July-08	0.052
August-08	0.046
September-08	0.046
October-08	0.053
November-08	0.058
December-08	0.06
January-09	0.156
February-09	0.111
March-09	0.077
April-09	0.048
May-09	0.091
June-09	0.152
July-09	0.15
August-09	0.105
September-09	0.189
October-09	0.114
November-09	0.118
December-09	0.145
January-10	0.176

Table 5 - Asheville Unit 2 Monthly Reported SO2 Emission Rates [1]	
Yr-Mon	Unit 2 SO2 Rate (lb/MMBtu)
February-10	0.11
March-10	0.099
April-10	0.087
May-10	0.249
June-10	0.31
July-10	0.125
August-10	0.261
September-10	0.234
October-10	0.259
November-10	0.215
December-10	0.221
January-11	0.252
February-11	0.314
March-11	0.363
April-11	0.284
May-11	0.278
June-11	0.359
July-11	0.373
August-11	0.105
September-11	0.064
October-11	0.311
November-11	0.316
December-11	0.3
January-12	0.773
February-12	0.339
March-12	0.195
April-12	0.219
May-12	0.187
June-12	0.093
July-12	0.101
August-12	0.112
September-12	0.147
October-12	0.169
November-12	0.136
December-12	0.122
January-13	0.15
February-13	0.092
March-13	0.092
April-13	0.098
May-13	0.15
June-13	0.151
July-13	0.156
August-13	0.146
September-13	0.15

Table 5 - Asheville Unit 2 Monthly Reported SO2 Emission Rates [1]	
Yr-Mon	Unit 2 SO2 Rate (lb/MMBtu)
October-13	0.171
November-13	0.124
December-13	0.086
January-14	0.162
February-14	0.165
March-14	0.164
April-14	0.16
May-14	
June-14	0.19

[1] Blank indicates that the Unit was not operating that month.

AIR QUALITY DISPERSION MODELING
1-HOUR AVERAGE STANDARD FOR SULFUR DIOXIDE
DUKE ENERGY – ASHEVILLE PLANT

Expert Report

Prepared by:
D. Howard Gebhart

Air Resource Specialists, Inc.
1901 Sharp Point Drive, Suite E
Fort Collins, CO 80525
(970) 484-7941

D. Howard Gebhart

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1.0 INTRODUCTION & EXECUTIVE SUMMARY

This report describes an air quality dispersion modeling analysis for sulfur dioxide (SO_2) emissions from the Duke Energy Asheville Plant located near Asheville, North Carolina. The modeling analysis has been conducted to assess whether or not SO_2 emissions from the Asheville Plant cause or contribute to exceedances of the National Ambient Air Quality Standards (NAAQS) for SO_2, specifically the 1-hour average NAAQS of 75 parts per billion (ppb).

The air quality modeling analysis has been prepared by Air Resource Specialists, Inc. (ARS) on behalf of Sierra Club. Qualifications of the author are provided in Appendix A.

The modeling applied the US Environmental Protection Agency (USEPA) AERMOD dispersion model, which is the approved regulatory model in 40 CFR 51 Appendix W for applications in the "near-field", defined as ambient air quality impacts within 50 kilometers (km) of the emissions unit. The modeling approach followed the applicable guidance for dispersion modeling found in 40 CFR 51 Appendix W and accompanying State of North Carolina modeling guidelines. The modeling study was also consistent with USEPA's draft 2013 technical guidance on making SO_2 attainment designations using air quality modeling.

The modeling was based on actual SO_2 emissions from the two (2) Asheville Plant coal-fired generating units, as compiled in the USEPA Clean Air Markets database. ARS considered actual SO_2 emissions over the time period starting August 23, 2010 and ending June 30, 2014. This time period was selected because August 23, 2010 represents the date which the 1-hour average SO_2 NAAQS became effective on a federal level and June 30, 2014 is the most recent date through which information on SO_2 emissions from the Clean Air Markets database was available at the time this modeling evaluation was completed.

In addition, different subsets of this time interval were also considered, specifically:

1) the most recent three complete calendar years, i.e., 2011-2013,
2) the three year period ending June 30, 2014, i.e., July 1, 2011 through June 30, 2014,
3) the time period following adoption of the 1-hour NAAQS SO_2 standard by the Western North Carolina Regional Air Quality Agency (WNCRAQA); i.e., November 14, 2011 through June 30, 2014.

Meteorological inputs for the modeling were taken from concurrent National Weather Service surface observations collected at the Asheville Regional Airport coupled with upper air observations collected at Greensboro, NC. The Asheville Regional Airport is located in close proximity to the Duke Energy Asheville Plant and is only about 4 kilometers (km) or 2.5 miles south of the power plant site. The proximity of the Asheville Airport to the plant makes these meteorological data representative of the general turbulence and dispersion conditions around the Asheville Plant site.

Other required data for the AERMOD modeling (stack height, etc.) were taken from publically available data and/or information supplied by the WNCRAQA.

The 1-hour average NAAQS for sulfur dioxide (SO_2) is set at 75 ppb, based on the 99th percentile of the daily maximum concentration averaged over three (3) years (75 FR 35520, June 22, 2010). For the purpose of this modeling study, ARS used 196 micrograms per cubic meter as the equivalent concentration for the NAAQS. The AERMOD model computes the 1-hour average concentration for all hours of the time interval modeled, and then sorts the data to determine maximum daily 1-hour average concentration. Then, the 99th percentile concentration (based on the 4th highest concentration in each year) is calculated by the model and AERMOD averages the 99th percentile concentration for each year across all years of data modeled. If the time interval in AERMOD is different than three years, AERMOD still uses the time interval modeled to compute the average, as per USEPA guidance. The average of the 4th highest daily maximum concentrations over the time interval modeled is reported by AERMOD and is the concentration compared to the NAAQS.

The modeling results are summarized in Table 1-1.

Table 1-1
Days Exceeding NAAQS at any Receptor
Asheville Station; Asheville, NC – Actual SO_2 Emissions
Concentrations in Micrograms per Cubic Meter

Model Scenario	Start Date	End Date	Total Days	Modeled Days Above NAAQS	Percent	Modeled SO_2 Concentration
1	8/23/2010	6/30/2014	1408	448	31.82%	696.29
2	1/1/2011	12/31/2013	1096	334	30.47%	554.25
3	7/1/2011	6/30/2014	1096	295	26.92%	571.51
4	11/14/2011	6/30/2014	960	250	26.04%	526.23

The AERMOD dispersion modeling demonstrates that the Duke Energy Asheville Plant does not meet the 1-hour average NAAQS for SO_2. Depending on the time period selected, the modeled SO_2 concentrations were roughly a factor of three above the NAAQS, with some time periods modeled showing that the SO_2 concentrations exceeded the applicable NAAQS by a factor of approximately 3.5.

In addition, from the modeling results, ARS computed the number of time periods over which a modeled concentration above the 1-hour SO_2 NAAQS occurred at any modeled receptor. That analysis concluded that the modeled exceedances of the SO_2 NAAQS were frequent, occurring about once every three days over the period August 23, 2010 through June 30, 2014.

Lastly, ARS evaluated the AERMOD output data to assess locations where the modeled NAAQS exceedances occurred. This analysis is shown in Figure 1-1. The modeled NAAQS exceedances occurred in all directions from the Duke Energy Asheville Plant, with most of the problem receptors at higher elevations where the Asheville Plant plume impinged on nearby elevated terrain. There was a cluster of receptors with elevated SO_2 concentrations east of the Skyland area, located in and near a populated residential area. In this area, the receptors that were calculated to exceed the SO_2 NAAQS also appeared to be correlated with elevation, and generally occurred when the ground-level elevation was in the range of 2,700 to 2,800 ft MSL. To the south, some receptors with SO_2 concentrations above the NAAQS occurred in adjacent Henderson County.

Figure 1-1.
Asheville Plant Modeling – SO_2 NAAQS Exceedance Locations
Contours show with darker colors indicating higher modeled SO_2 concentrations
Based on modeling for the August 23, 2010 through August 22, 2013 time interval.

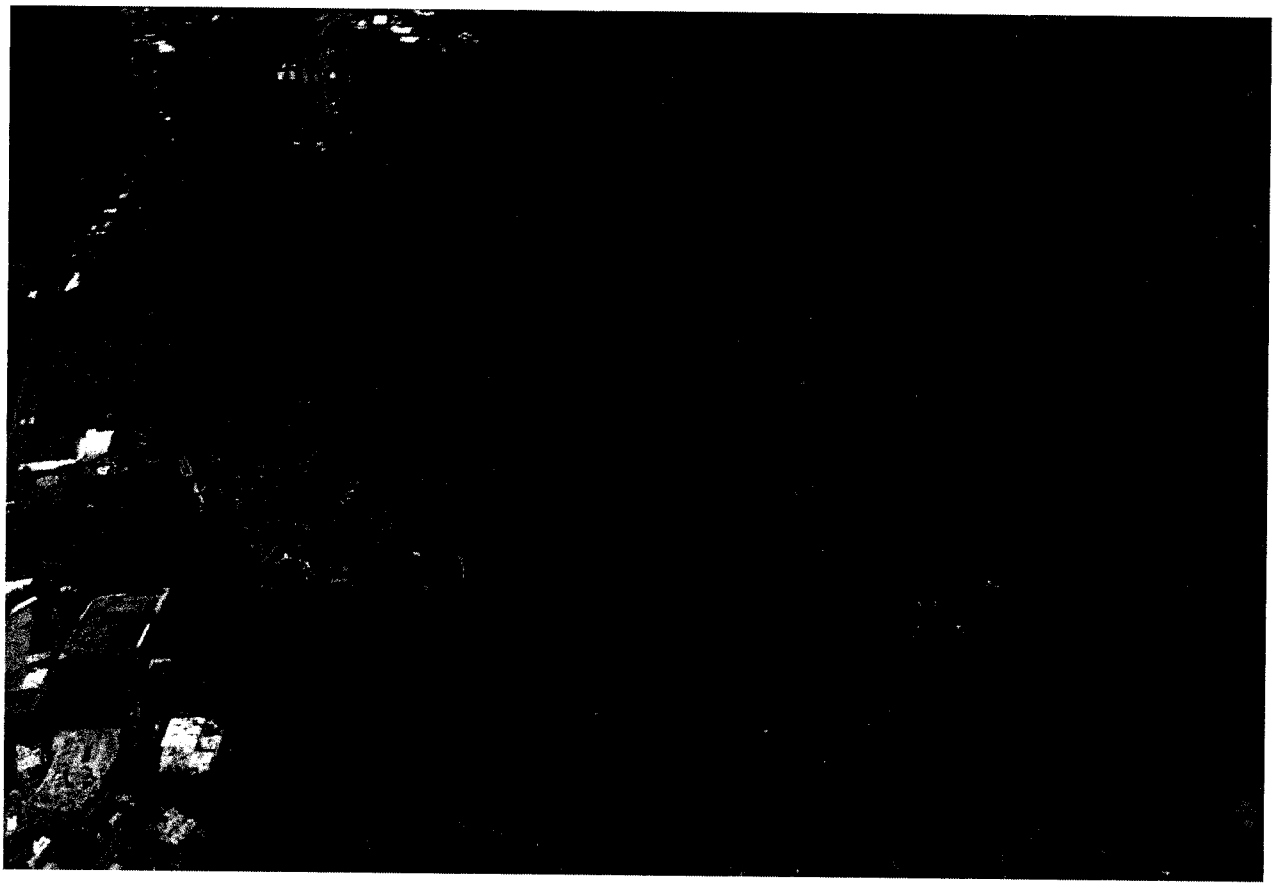


Figure 1-2.
Asheville Plant Modeling – Close Up of SO_2 NAAQS Exceedance Locations
Contours show with darker colors indicating higher modeled SO_2 concentrations
Based on modeling for the August 23, 2010 through August 22, 2013 time interval.

In conclusion, the modeling analysis found that for all time periods examined, emissions from the Ashville Plant were solely responsible for causing 99th percentile 1-hour average SO_2 concentrations that were multiple times higher than the NAAQS and that such NAAQS exceedances occurred on roughly 1 out of every 3 days over the time period modeled.

2.0 MATERIALS CONSULTED

The following resources were consulting in preparing this expert report:

Anderson, Tom. Personal Communication. E-Mail communication with Tom Anderson, Meteorologist II for NC DENR Division of Air Quality, December 13, 2012.

Federal Register, June 22, 2010. 75 FR 35520.

Fahrer, Victor. Personal Communication. E-Mail communication with Victor S. Fahrer, Western North Carolina Regional Air Quality Agency. June 6, 2012.

North Carolina Department of Environment and Natural Resources. Guidelines for Evaluation the Air Quality Impacts of Toxic Air Pollutants in North Carolina (December 2009).

Progress Energy Carolinas, Inc. Clearing the Air – Facts about emission reductions at the Asheville Plant (see: www.duke-energy.com/power-plants/coal-fired/asheville.asp).

SourceWatch. Information about Asheville Plant (see: www.sourcewatch.org).

US Environmental Protection Agency. Guideline on Air Quality Models, 40 CFR 51 Appendix W.

US Environmental Protection Agency. Air Markets Program Data (AMPD) Website (see: http://ampd.epa.gov/ampd).

US Environmental Protection Agency. SO_2 NAAQS Designations Modeling Technical Assistance Document. USEPA, Office of Air Quality Planning and Standards, Air Quality Assessment Division, December 2013.

US Environmental Protection Agency (March 19, 2009). AERMOD Implementation Guide. USEPA, Office of Air Quality Planning and Standards, Air Quality Assessment Division, March 19, 2009.

US Environmental Protection Agency (September 2004). User's Guide for the AMS/EPA Regulatory Model—AERMOD.

Western North Carolina Regional Air Quality Agency. Permit # 11-628-10B issued to Progress Energy Carolinas, Inc. – Asheville Steam Electric Plant, Permit date January 18, 2011.

3.0 INFORMATION ON DUKE ENERGY – ASHEVILLE PLANT

Duke Energy (formerly Progress Energy Carolinas, Inc.) operates the Asheville Steam Electric Plant, which consists of two (2) coal-fired electric generation units with a combined capacity of 376 megawatts (MW). In addition, there are two (2) natural gas-fired combustion turbines producing a combined total of 324 MW. However, the combustion turbine emissions were not evaluated for this SO_2 modeling study.

The Asheville Plant was originally constructed in 1964 and is located near Skyland, North Carolina, about 5 miles south of the City of Asheville and near the Asheville Regional Airport. Figure 3-1 shows the general location of the Asheville Station, taken from Google Earth on September 30, 2013.

For SO_2 emissions controls, the Asheville Plant employs "scrubbers", where a water and limestone mixture is introduced into the flue gas to react with the SO_2 emissions and produce a gypsum by-product, which can be recovered and used as an additive for concrete or the production of wallboard.

Construction on the scrubber project began in 2003, with one unit coming on-line in 2005 and the second scrubber unit coming on-line in 2006. Duke Energy reports that SO_2 emission reductions associated with the Asheville Plant scrubber would be about 93 percent compared to a baseline of 2001 emissions (www.duke-energy.com/power-plants/coal-fired/asheville.asp).

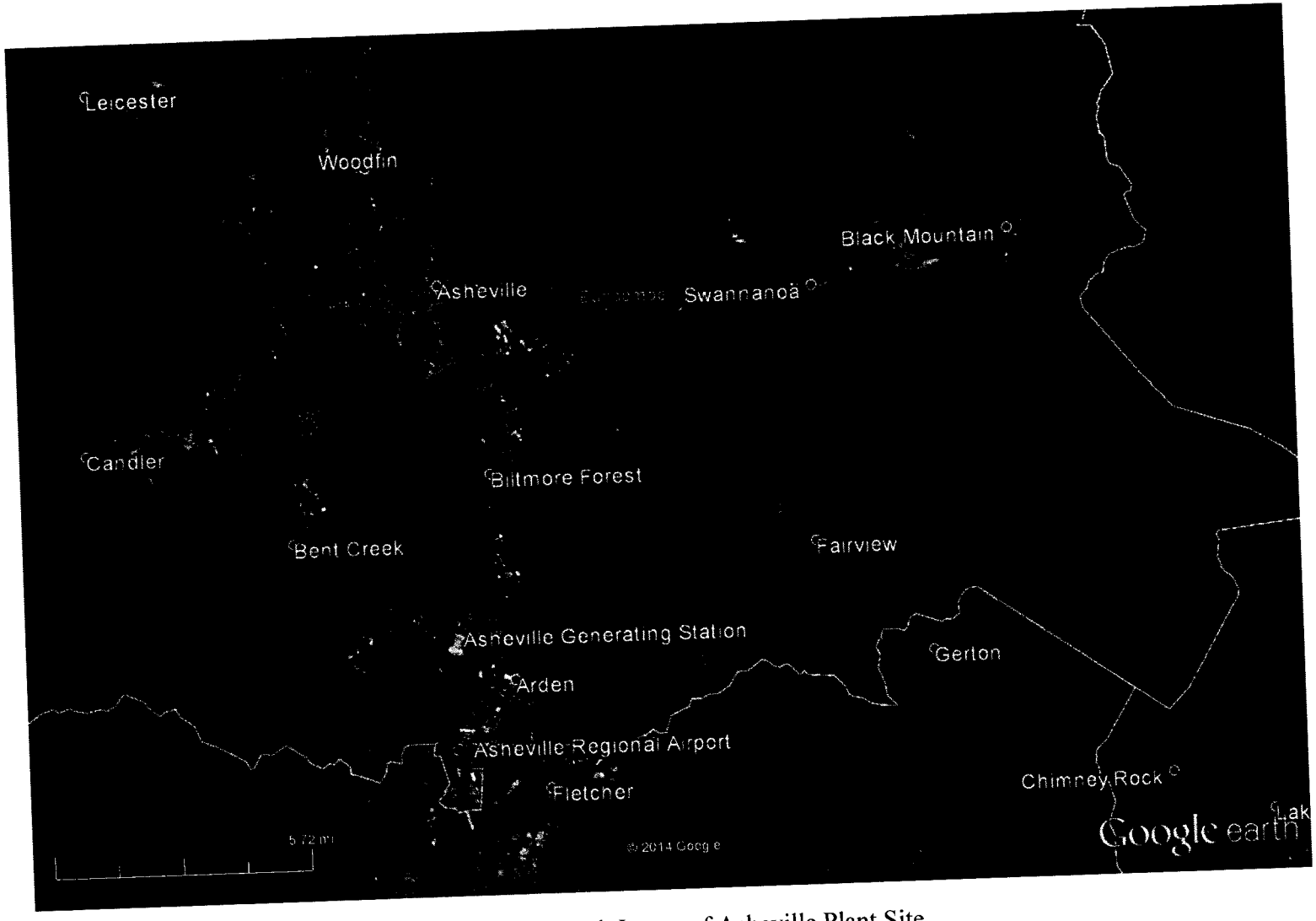


Figure 3-1. Google Earth Image of Asheville Plant Site

4.0 NATIONAL AMBIENT AIR QUALITY STANDARDS

On June 22, 2010, the USEPA revised the NAAQS for sulfur dioxide (SO_2), incorporating a 1-hour average standard set at 75 ppb, based on the 99th percentile of the daily maximum concentration averaged over three (3) years (75 FR 35520, June 22, 2010). The State of North Carolina adopted the same standards into its rules (see 15A NCAC 02D.0402) on September 1, 2011. The 1-hour SO_2 NAAQS standard was also adopted by WNCRAQA Board at its meeting on November 14, 2011.

USEPA's preferred approach for assessing SO_2 concentrations in the vicinity of large emission sources is through dispersion modeling. When the 1-hour SO_2 NAAQS was adopted, USEPA commented that modeling was "*the most technically appropriate, efficient, and readily available method for assessing short-term ambient SO_2 concentrations in areas with large point sources*" (75 FR Page 35551, June 22, 2010). Also, no ambient air quality monitoring for SO_2 is conducted in Buncombe County, which contains the Asheville Plant and the community of Asheville.

For the modeling, the 99th percentile daily maximum concentration would represent the 4th highest daily maximum for a one year (365 day) period. As such, in order to compute the average concentration for assessing whether or not the NAAQS has been exceeded, one would determine the 4th highest daily maximum concentration in each modeling year and then determine the average concentration from that set of data. The NAAQS is based on a three-year average, but if modeling contains more than three years of data (e.g., five years of data as per 40 CFR 51 Appendix W), EPA's modeling guidelines state that the modeled concentration for comparison to the NAAQS would be the average of the 99th percentile daily maximum concentration based on all data years modeled.

5.0 MODELING PROTOCOL

5.1 Model Selection and Technical Inputs

Dispersion modeling was conducted using AMS/EPA Regulatory Model (AERMOD). All AERMOD technical options selected followed the regulatory default option. Model inputs also specified rural conditions for dispersion coefficients and other variables. AERMOD Version 14134 was utilized for this analysis. The AERMET data processing was also completed using the current regulatory model (Version 14134).

The application of AERMOD follows guidance from the *EPA Guideline for Air Quality Models* (40 CFR 51, Appendix W), as well as procedures outlined in the USEPA *AERMOD Implementation Guide* (March 19, 2009).

All modeling used the Universal Transverse Mercator (UTM) grid coordinates. UTM coordinates for the emission points were obtained using an overlay map of the power plant facility. A precise definition of the facility boundary was not necessary as the maximum SO_2 impacts from the two (2) coal–fired units occurred several kilometers downwind of the plant.

Modeling input/output files are included on the enclosed CD-ROM (See Appendix B). Only sulfur dioxide (SO_2) emissions from the two (2) coal-fired units at the Asheville Plant were considered in the modeling.

5.2 Emissions and Stack Exhaust Information

5.2.1 Emissions Information

Hourly SO_2 emissions information for the Asheville Plant were obtained from the USEPA Air Markets Program Data (AMPD) website (http://ampd.epa.gov/ampd).

There are two (2) coal-fired emission units at the Asheville Plant. Unit #1 is noted as ID #1816 and Unit #2 is noted as ID #1817 in the AMPD data. The 2010, 2011, 2012, and 2013 hourly SO_2 emissions data were retrieved from the AMPD database by ARS on May 6, 2014. The 2014 hourly SO_2 emissions data was provided to ARS by Sierra Club, but also traces back to the AMPD database.

The hourly SO_2 emissions downloaded from the AMPD database were input to AERMOD using the HOUREMIS keyword. Under this option, a separate data file provides the hourly emissions input to AERMOD, along with the stack gas exit temperature (degrees K) and the stack gas exit velocity (meters/sec). The hour-by-hour stack gas temperature and exit velocity data input to the model were assumed to be static. The stack velocity and temperature data are described in the next section.

Figure 5-1 and 5-2 show time series plots for the hourly SO_2 emissions data at the Asheville Plant. Figure 5-1 shows the Unit #1 data and Figure 5-2 shows the Unit #2 data. Note that one hourly emissions point for Unit #2 (857.17 lb/hr on April 9, 2013, Hour 11) is not shown as this point lies outside the boundaries of the graph.

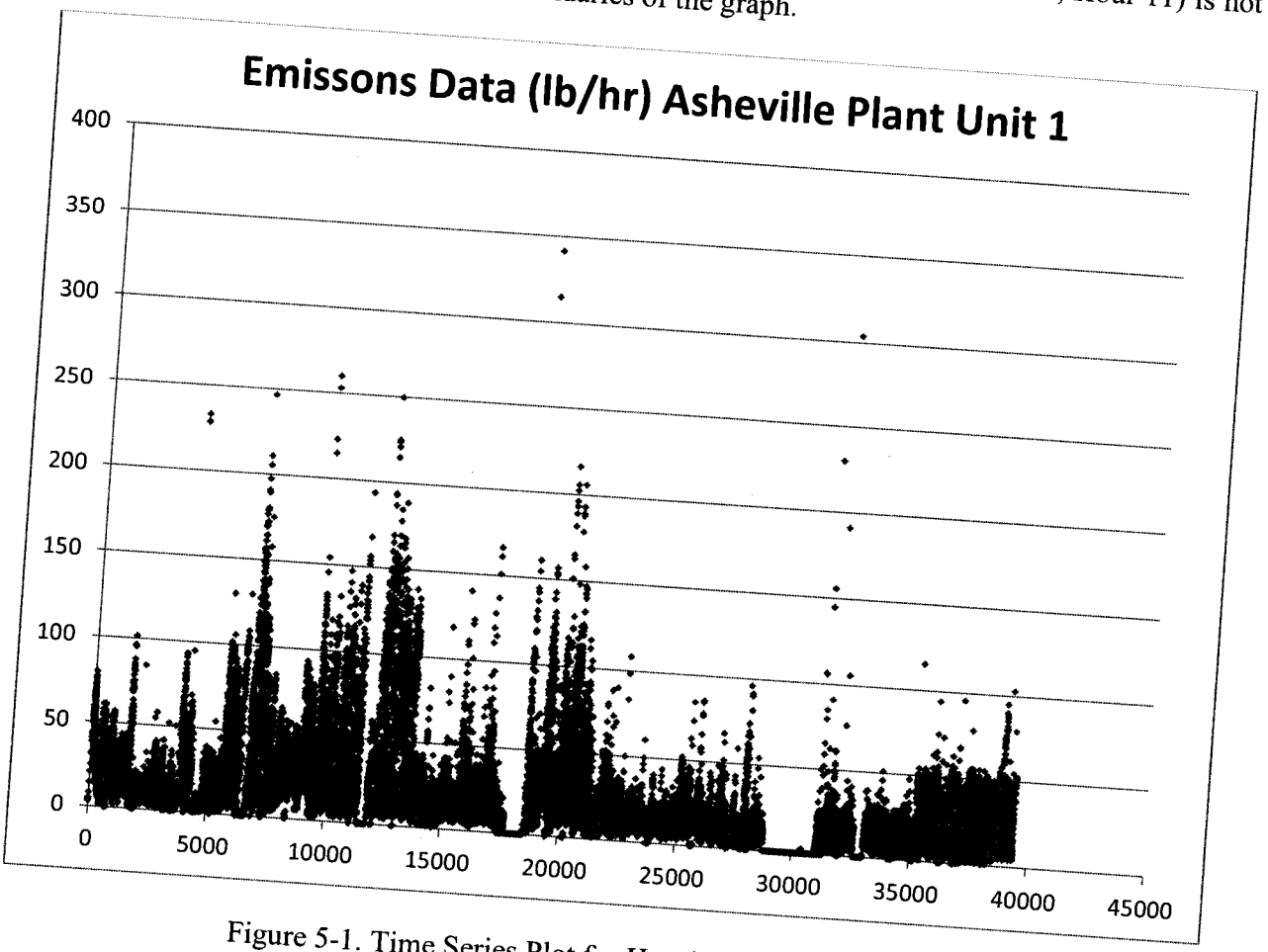


Figure 5-1. Time Series Plot for Hourly SO_2 Emissions Data
Duke Energy Asheville Plant – Unit #1
Hour 1 starts January 1, 2010

2010: 1-8760, 2011: 8761-17520, 2012: 17521-26280, 2013: 26281-35040, 2014: 35041+

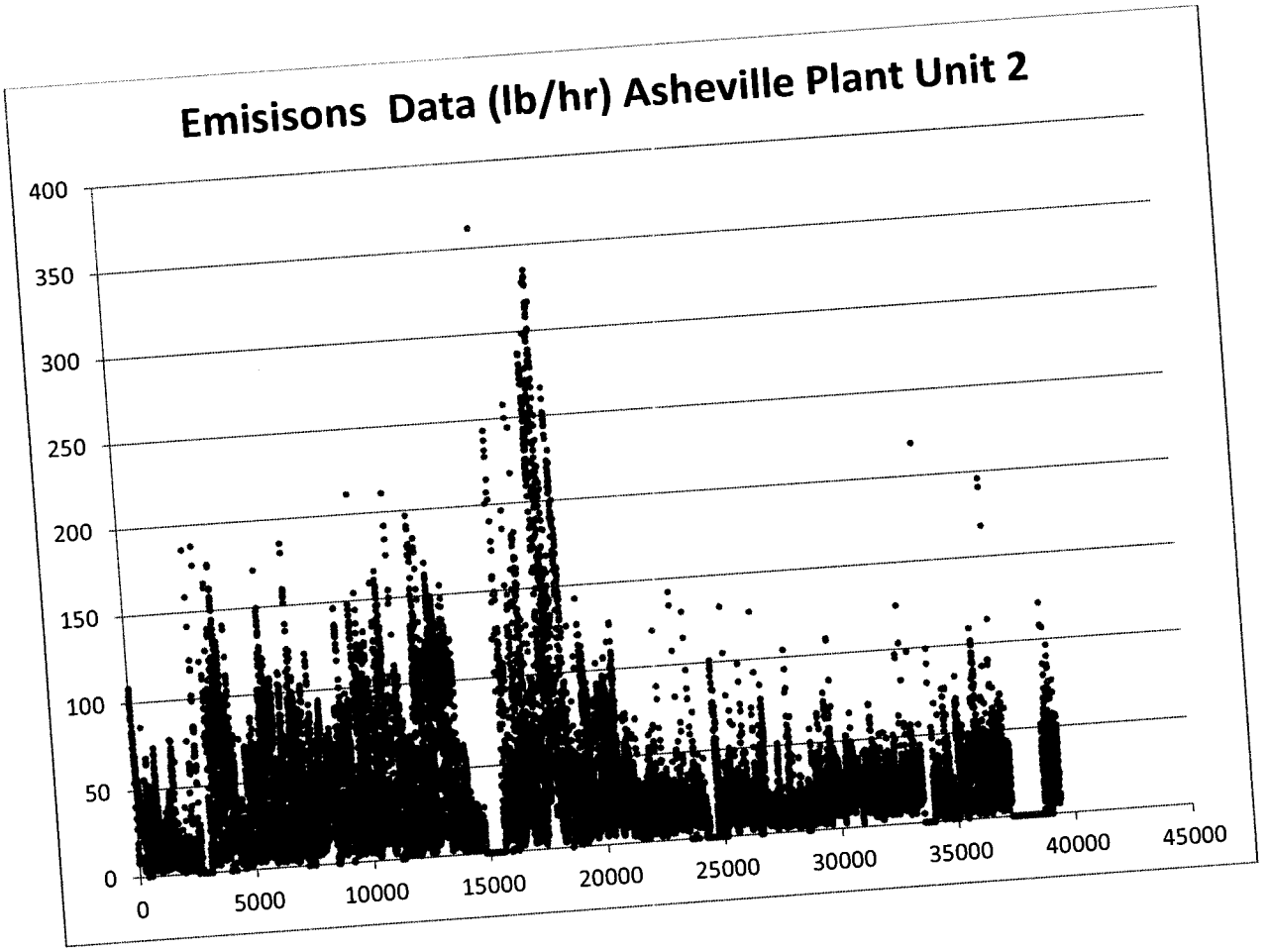


Figure 5-2. Time Series Plot for Hourly SO_2 Emissions Data
Duke Energy Asheville Plant – Unit #2
Hour 1 starts January 1, 2010

2010: 1-8760, 2011: 8761-17520, 2012: 17521-26280, 2013: 26281-35040, 2014: 35041+

5.2.2 Stack Exhaust Information

The stack exhaust information for both Asheville Plant coal-fired units (stack height, stack diameter, stack flow rate/velocity, and stack exhaust temperature) were provided by WNCRAQA (Mr. Victor Fahrer). These data are shown in Table 5-1.

Table 5-1
Asheville Station Source Input Parameters
(Data provided by Mr. Victor Fahrer, WNCRAQA)

Unit ID	UTM E (m)	UTM N (m)	Stack Height (ft.)	Stack Diameter (ft.)	Stack Exit Velocity (ft./sec)	Stack Exit Temperature (degree F)
STACK1	359964.72	3926330.67	327	16.5	56.74	121
STACK2	359971.88	3926329.20	327	16.5	56.14	119

The stack exit velocity and stack exit temperature were assumed to be static in the hourly emissions file described previously; i.e., these parameters were not varied with time. As explained below, this assumption favors Duke Energy as this assumption likely underestimates the true impact of the SO_2 emission under partial load conditions. The velocity and temperature data listed in Table 5-1 were input to each hour of the hourly emissions file as described in the previous section.

ARS' understanding is that the stack parameter data in Table 5-1 represent each unit when operating at or near full load. At partial load conditions, the stack exhaust flow and resulting exit velocity would likely be less than the data input to AERMOD. So at partial load conditions, the resulting plume rise from each stack would be less than the plume rise calculated by the model using the data from Table 5-1. If the plume is actually closer to the ground that is computed by AERMOD, the resulting SO_2 concentrations in real life would likely be higher than the SO_2 concentrations summarized later in Section 6.

Because the only emissions considered in the modeling were from the elevated stacks at Units #1 and #2, no building downwash parameters were included in the modeling. The tall stacks at Units #1 and #2 are sufficiently high (327 ft.) to avoid any significant building downwash influences and omitting the building downwash parameterization from the AERMOD inputs does not alter the modeling results.

5.3 Receptor Inputs

The receptor data used for the AERMOD modeling were based on Section 5.3 of the *Guidelines for Evaluating the Air Quality Impacts of Toxic Air Pollutants in North Carolina (December 2009)*, henceforth referred to as the Guideline.

Based on the Guideline, it is recommended that modeling receptor grids extend a distance of 5-10 km, noting that for stacks greater than 50 m (164 ft.), larger receptor grids are needed to determine the "general area of maximum impact of each pollutant." For the Asheville Plant modeling project, 15 km was the distance necessary to determine all maximum impacts (modeling results show that concentrations diminish beyond 15 km). The Guideline goes on to say that all receptor grids should have a spacing of no greater than 1000 m and that denser receptor grids should be used closer in to identify the maximum pollutant concentrations (down to 100 m spacing). However, in this particular case, the recommended close-in receptors are not needed due to the tall stack heights of the emission sources (327 ft.).

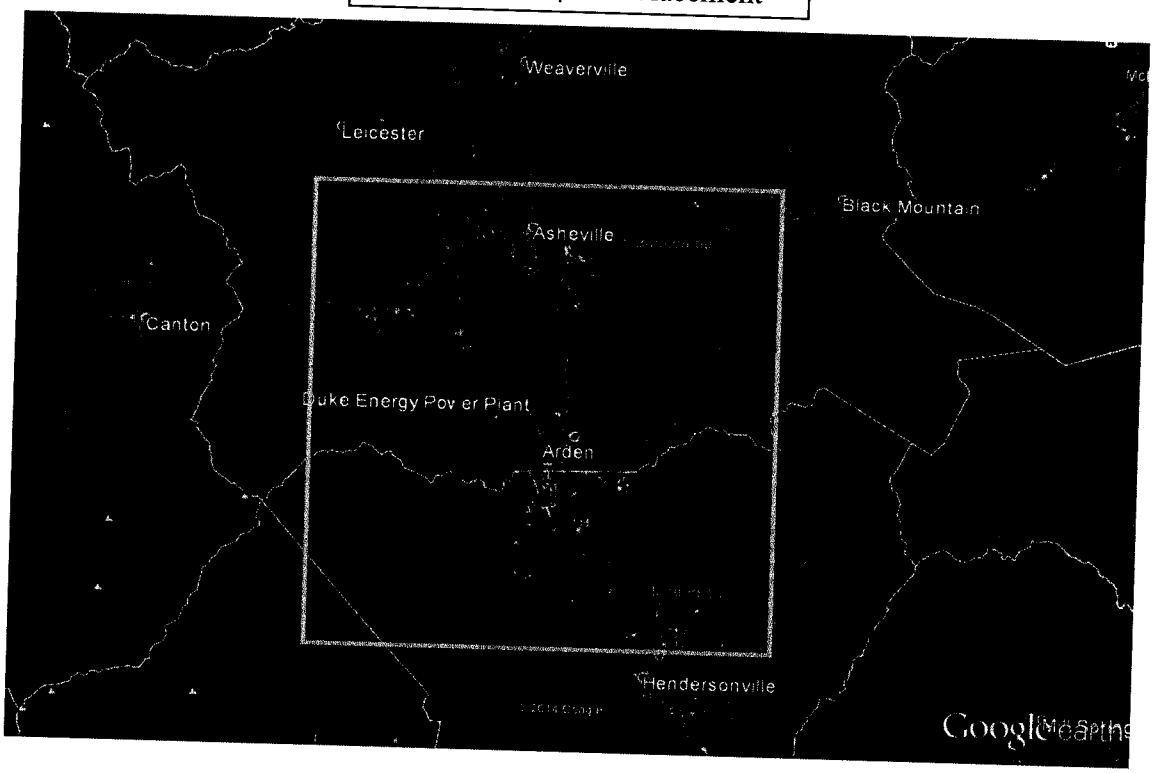
For the Asheville Plant modeling study, the receptor grid density was every 500 m out to 5 km and every 1000 m out to approximately 15 km. This receptor grid is consistent with the North Carolina Guideline. Then, once the locations of maximum impact were identified, additional receptors at a spacing of 100 meters were input to the model at such locations. The 100 meter grid generally encompassed any locations where the 500-1,000m grid modeling identified concentrations above the 1-hour SO_2 NAAQS, which generally occurred along elevated terrain to the northeast of the Ashville Plant.

Also, please note that all receptors were placed at ground-level. No "flagpole" receptors were used in this analysis.

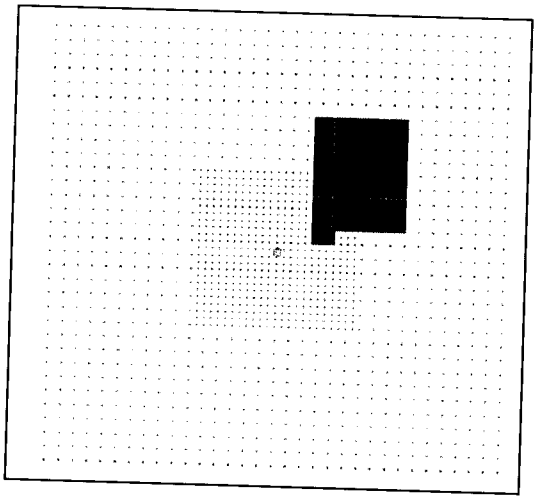
Terrain elevations for receptors were determined using the USEPA AERMAP preprocessor program and the United States Geological Survey (USGS) National Elevation Dataset (NED) input data for the surrounding area. GEOTIFF files were downloaded from the USGS National Map Viewer on January 31, 2013. The downloaded files provided digital terrain elevation data with a resolution of 1/9 arc second.

Figure 5-3 shows a plot of the receptor network used in the modeling.

Figure 5-3
Receptor Map and Placement



1000 m grid
500 m grid
100 m grid



5.4 Meteorological Data Inputs

The dispersion modeling study uses meteorological data for the time period of interest using the surface observations from the Asheville, NC Regional Airport and the Greensboro, NC upper air observations. The Asheville Regional Airport is located within about 4 km (2.5 miles) of the Asheville Generating Station.

The meteorological data was prepared by Oris Solutions/Bee-Line Software (Oris) following instructions provided to Oris by the author. The preparation of the meteorological data is described below. The meteorological data were processed using the current regulatory version of the USEPA AERMET meteorological processor (Version 14134).

5.4.1 Data Sources

Raw National Weather Service (NWS) surface data from the Asheville, NC Regional Airport (WBAN ID #03812 - call sign AVL) and upper air data from Greensboro, NC's Piedmont Triad International Airport (WBAN #13723 - call sign GSO) were processed through the USEPA AERMET/AERMINUTE preprocessing software.

The hourly raw surface meteorological data from Asheville were obtained from the National Climatic Data Center (NCDC) ftp site (ftp://ftp.ncdc.noaa.gov/pub/data/noaa/) in Integrated Surface Hourly Data (ISHD) format (TD-3505), while the Greensboro raw upper air data were downloaded from the National Oceanic and Atmospheric Administration's (NOAA) Earth Systems Research Laboratory Radiosonde Database website in FSL format. (http://esrl.noaa.gov/raobs/). Both ISHD data and FSL data are time-stamped in Greenwich Mean Time (GMT). The Asheville hourly surface data was supplemented with 1-minute Automated Surface Observation System (ASOS) wind data collected at AVL. The ASOS 1-minute data were downloaded from another NCDC ftp site (ftp://ftp.ncdc.noaa.gov/pub/data/asos-onemin/).

Because ISHD surface data and FSL upper air data are based on Greenwich Mean Time (GMT), the 1st day of the following year must be also be processed. Otherwise, AERMET writes missing (99999) data for the last 5 hours of the year (for Eastern time). The extra day of data (January 1 for the following year) was then deleted from the meteorological file prior to running AERMOD.

For the ISHD surface data, the raw data for the year of interest is appended with the data for January 1 of the following year as explained above. The following month (January) of the 1-minute ASOS data must also be used (the ASOS 1-minute data is available in 1-month blocks). The FSL data download site allows the user to specify January 1, hour 0 YYYY to January 1, hour 23, YYYY+1, where YYYY is the year being processed.

5.4.2 Meteorological Data Processing Methodology

Standard USEPA meteorological data processing guidance as found in the *AERMOD Implementation Guide*, the *AERMET Users Guide*, the *AERMINUTE Users Guide*, and the *AERSURFACE Users Guide* was followed in developing the meteorological data files.

Prior to incorporating the ASOS data into AERMET, it must be processed in another program called AERMINUTE (Version 11325). AERMINUTE converts the raw ASOS 1-minute wind speed and wind direction data into 1-hour average scalar wind speeds and unit vector-averaged wind directions for each hour. The primarily utility of AERMINUTE is that it eliminates instances previously recorded as either calm or missing in the ISHD surface data, resulting in more valid hours for input to AERMOD.

The surface characteristics of albedo, Bowen ratio, and surface roughness length are also required by AERMET. Albedo represents the fraction of incoming solar radiation that is reflected back to space and has a value between 0 and 1. Light-colored surfaces have a higher albedo than darker surfaces, indicating that more of the incoming solar radiation is reflected. Bowen ratio represents the ratio of sensible heat flux to latent or evaporative heat flux and is an indicator of soil moisture. Surface roughness length (z_o) represents the height above ground at which the mean wind drops to zero, based on the frictional effects of the earth's surface. Over smooth surfaces, such as calm waters, z_o is on the order of 1 millimeter. Where the surface has large obstructions such as trees and/or buildings, z_o can be 1 meter or greater.

In order to generate the three (3) surface characteristics for input to AERMET, the USEPA pre-processor AERSURFACE (Version 13016) was used. AERSURFACE takes as input the location of interest, as well as information related to wintertime snow cover, whether the site is an airport, whether the location is classified as "arid" (defined as receiving less than 9 inches of rainfall per year), and information on soil moisture (derived from the annual precipitation). AERSURFACE then "reads" the National Land Cover Data Base (1992) and based on the type of land use, generates values for surface roughness length, albedo, and Bowen ratio. For this study, single spatial and seasonal/temporal modes were used. In other words, AERSURFACE generated average values over the entire domain of interest for each of the four climatological seasons (spring, summer, fall, and winter).

A refinement was also used to determine soil moisture based upon a climatological assessment of annual precipitation at AVL. For this adjustment, the annual precipitation total at AVL was determined for each year in a 30-year period (1983-2012). According to the *AERSURFACE Users Guide*, the definition of "dry conditions" is the lowest or driest 30% of the 30 years (lowest 9 years), average moisture is the middle 40% (middle 12 years) and wet conditions are the highest 30% (9 years). The sorted years and annual precipitation are shown in Table 5-2, sorted from wettest to driest.

Table 5-2
Asheville, North Carolina Year Annual Precipitation (inches per year)

High Precipitation Years		Middle Precipitation Years		Low Precipitation Years	
Year	Precip.	Year	Precip.	Year	Precip.
2013	75.22	2011	41.78	2010	31.64
2009	52.87	1992	41.61	2000	31.28
1989	51.68	2005	40.64	1985	30.7
2003	48.2	1996	40.45	2001	30.21
2004	46.42	2006	39.38	1999	29.85
1994	45.42	2002	38.1	2008	28.64
1990	44.86	1997	38.02	1986	25.67
2012	44.68	1984	36.24	2007	23.55
1995	43.81	1998	35.48	1988	23.05
		1991	33.05		
		1987	32.67		
		1993	32.65		

Based on the precipitation totals, 2010, was a "low" precipitation year, 2011 was an "average" precipitation year, while 2012 and 2013 were "wet" precipitation years. For 2014, since the data were not complete at the time this modeling was completed, the precipitation was assumed to be "average." Also, AERSURFACE used the following input information: 1) the area is not covered in continuous snow for one or more months of the year, 2) the site is at an airport, and 3) the location is not defined as "arid."

Once the AERMINUTE and AERSURFACE processing was completed, the AERMET processing proceeded using the most recent regulatory model (Version 14134). Once the data was entered into AERMET, the model was executed using the standard three-step processing procedure. Step 1 reads the surface and upper air data files and performs quality assurance (QA) on both data sets. Step 2 merges the surface and upper air data into 24-hour blocks (including the results from AERMINUTE). Step 3 then calculates the hourly PBL parameters to go with the rest of the meteorological data. Finally, after Stage 3 is completed, the hours and data associated with January 1 of the following year were manually removed from the SFC and PFL output files. As a result, two files were generated as final output from AERMET for each year of meteorological data in a format ready for input to AERMOD (SFC and PFL).

As the last step, the individual meteorological years set were merged into a single file for AERMOD so that the model could properly calculate the average of the 99th percentile daily maximum 1-hour SO_2 concentration. The specific meteorological data years merged were dependent on the time period selected for each individual AERMOD run.

6.0 MODELING RESULTS

This section summarizes the modeling results for the SO_2 modeling for emissions at Duke Energy – Asheville Plant. These results are presented for the different time periods considered in the modeling:

- All data following the adoption of the 1-hour SO_2 NAAQS by USEPA, i.e., August 23, 2010 through June 30, 2014,
- The most recent three complete calendar years, i.e., January 1, 2011 through December 31, 2013,
- The most recent three-year period ending June 30, 2014, i.e., July 1, 2011 through June 30, 2014, and
- All data following adoption of the 1-hour SO_2 standard by the Western North Carolina Regional Air Quality Agency (WNCRAQA); i.e., November 14, 2011 through June 30, 2014.

The NAAQS for SO_2 is expressed as 75 ppb, based on the 99th percentile of the daily maximum concentration, averaged over three (3) years. However, the AERMOD modeling results are expressed in units of micrograms per cubic meter (ug/m^3). ARS has used a modeled concentration of 196 ug/m^3 as the equivalent of 75 ppb.

An exceedance was calculated by the model if at least one receptor showed the time period average for the maximum daily 1-hour average SO_2 concentration was in excess of the NAAQS (75 ppb or 196 ug/m^3). Again, all modeling was based on the actual SO_2 emissions reported for the Asheville Plant in EPA's Air Markets Program Data and the actual meteorological conditions occurring for the specific hour of those emissions. In this manner, the ARS modeling study followed the recommendations in EPA's *SO_2 NAAQS Designations Modeling Technical Assistance Document (DRAFT - December 2013).*

In AERMOD, the model determines the 99th percentile (4th highest) daily maximum 1-hour SO_2 concentration for the year and then computes the average of those values. As necessary, the AERMOD input file used a "zero" emissions rate for any individual hours outside the time interval of interest so that the model results during any such period would also be zero. In this way, non-zero SO_2 concentrations are returned by AERMOD only for the time period of interest. When a partial year was modeled, ARS understands that AERMOD computation of the multi-year average truncates any incomplete year and does not use data from the incomplete 365-day period when computing the average of the 4th highest daily maximum values. In other words, only years with a complete 365-day record in the meteorological data file were used to compute the multi-year average. However, the 365-day period need not start on January 1.

The analysis also underestimates the total SO_2 concentrations given that a "background" concentration for SO_2 has not been considered. Thus, all calculated instances of the SO_2 concentrations exceeding the NAAQS are solely attributable to emissions from the Duke Energy Asheville Plant. A complete list of modeling results at all receptors for each time period modeled is shown in the electronic modeling files (Appendix B).

6.1 Time Period #1 – All Data Following USEPA's Adoption of the 1-Hour SO_2 NAAQS

For this modeling analysis, the time period considered was all time periods following adoption of the 1-hour average SO_2 NAAQS by USEPA, or August 23, 2010 through June 30, 2014.

The AERMOD model output represents the average of the 4th highest daily maximum concentrations over the time period modeled. The computation was done for each receptor and the calculated value at each receptor was then compared to the NAAQS.

In this modeling scenario, the time period at the end of the data record (August 23, 2013 to June 30, 2014) is an incomplete year. As described above, AERMOD does not compute the 4th highest concentration for any incomplete period when calculating the multi-year average. The average concentration for the purpose of comparison to the NAAQS is based on the three complete years of data, i.e., 1) August 23, 2010 through August 22, 2011, 2) August 23, 2011 through August 22, 2012, and 3) August 23, 2012 through August 22, 2013. However, the 1-hour concentrations in the incomplete year are computed by the model and can be processed separately by the user if desired.

Table 6-1 summarizes the AERMOD modeling results for this time period. Only the top ten receptors showing a calculated NAAQS exceedance are shown in Table 6-1. For this time period, the worst-case impact location was shown to have the 99th percentile daily maximum 1-hour average SO_2 concentration in excess of the NAAQS by about a factor of 3.5.

Table 6-1

1-Hour SO_2 Modeling Results – Top 10 Results
Average of the 4th Highest Daily Maximum 1-Hr Concentration
Time Period Modeled: August 23, 2010 through August 22, 2013
Asheville Station; Asheville, NC – Actual SO_2 Emissions
Concentrations in Micrograms per Cubic Meter

X Coordinate	Y Coordinate	Concentration
362900	3927200	696.29
362900	3931700	686.19
363000	3932000	659.57
363000	3932000	659.57
363300	3929700	633.31
363000	3931900	631.00
362900	3927400	623.28
362800	3931600	619.94
362900	3931600	618.05
363300	3929800	614.86

6.2 Time Period #2 – The Most Recent Three Calendar Years (2011-2013)

For this modeling analysis, the time period considered was the most recent complete three calendar years, or January 1, 2011 through December 31, 2013.

The AERMOD model output represents the average of the 4th highest daily maximum concentrations over the time period modeled, in this case Calendar Years 2011, 2012, and 2013. In other words, AERMOD computed the 4th highest (99th percentile) concentration for each calendar year period, and then computed the average of these values. The computation is done for each receptor and the calculated value at each receptor was then compared to the NAAQS.

Table 6-2 summarizes the AERMOD modeling results for this time period. Only the top ten receptors showing a calculated NAAQS exceedance are shown in Table 6-2. For this time period, the worst-case impact location was shown to have the 99th percentile daily maximum 1-hour average SO_2 concentration in excess of the NAAQS by about a factor of 2.8.

Table 6-2

1-Hour SO_2 Modeling Results – Top 10 Results
Average of the 4th Highest Daily Maximum 1-Hr Concentration
Time Period Modeled: January 1, 2011 through December 31, 2013
Asheville Station; Asheville, NC – Actual SO_2 Emissions
Concentrations in Micrograms per Cubic Meter

X Coordinate	Y Coordinate	Concentration
362900	3927400	554.25
363100	3927400	540.38
362900	3927300	531.52
363300	3927500	508.30
362900	3928600	500.76
362900	3927200	497.26
362900	3928500	495.72
363000	3932200	494.68
363000	3932000	494.64
363000	3932000	494.64

6.3 Time Period #3 – The Three-Year Period Ending June 30, 2014

In this analysis, the time period considered was the most recent three years of data, or July 1, 2011 through June 30, 2014.

As explained above, the AERMOD model output represents the average concentration over the time period modeled. However, because AERMOD works best when modeling data on a calendar years basis, the meteorological data were reordered. Given that AERMOD computes

the concentrations for each hour independently of the other hours, the order in which the meteorological data are processed are of no consequence.

The data reordering creates a "pseudo" calendar year which better matches the AERMOD model expectations for data processing and assures that the three year average 4th highest concentration was calculated correctly. The "pseudo" calendar years were as follows:

- 2012: January 1 through June 30, 2012 and July 1 through December 31, 2011, thus simulating the time period July 1, 2011 through June 30, 2012.
- 2013: January 1 through June 30, 2013 and July 1 through December 31, 2012, thus simulating the time period July 1, 2012 through June 30, 2013.
- 2014: January 1 through June 30, 2014 and July 1 through December 31, 2013, thus simulating the time period July 1, 2013 through June 30, 2014.

In this case, there were three different "pseudo" calendar years modeled (2012, 2013, and 2014). AERMOD computed the 4th highest (99th percentile) concentration for each of the three "pseudo" calendar year periods, and then computed the average of these values. The computation was done for each receptor and the calculated value at each receptor was then compared to the NAAQS.

Table 6-3 summarizes the AERMOD modeling results for this time period. Only the top ten receptors showing a calculated NAAQS exceedance are shown in Table 6-3. For this time period, the worst-case impact location was shown to have the 99th percentile daily maximum 1-hour average SO_2 concentration in excess of the NAAQS by about a factor of 2.9.

Table 6-3

1-Hour SO_2 Modeling Results – Top 10 Results
Average of the 4th Highest Daily Maximum 1-Hr Concentration
Time Period Modeled: July 1, 2011 through June 30, 2014
Asheville Station; Asheville, NC – Actual SO_2 Emissions
Concentrations in Micrograms per Cubic Meter

X Coordinate	Y Coordinate	Concentration
363300	3929700	571.51
363100	3929800	555.62
362900	3927200	550.43
363300	3929800	535.61
363400	3929900	529.63
363200	3929900	526.73
363300	3929900	525.44
363400	3930100	508.48
363500	3930000	507.14
363500	3930000	507.14

6.4 Time Period #4 – The Period following Adoption of the 1-Hour SO2 NAAQS by WNCRAQA

In this analysis, the time period considered was the period following adoption of the 1-hour NAAQS standard by the WNCRAQA Board, or the time period starting November 14, 2011 and ending June 30, 2014. For this analysis, the "pseudo" calendar years described in Section 6.3 were modeled, except that for the period July 1, 2011 through November 13, 2011, the Asheville Power Plant emissions were set to zero.

There are three (3) different "pseudo" calendar years modeled for this time period (2012, 2013, and 2014). These "pseudo" years actually represent:

1) 2012: July 1, 2011 through June 30, 2012,
2) 2013: July 1, 2012 through June 30, 2013, and
3) 2014: July 1, 2013 through June 30, 2014.

Only a partial year was actually modeled in the first year, as an emission rate of zero was used for time period July 1 through November 13, 2011. This approach allowed AERMOD to return an average concentration over the entire three year period, instead of truncating the incomplete year.

In this analysis, AERMOD computed the 4th highest (99th percentile) daily maximum 1-hour average SO_2 concentration for each of the three "pseudo" calendar year periods, and then computed the average of these values. The computation was done for each receptor and the calculated value at each receptor was then compared to the NAAQS.

Table 6-4 summarizes the AERMOD modeling results for the selected time period. Only the top ten receptors showing a calculated NAAQS exceedance are shown in Table 6-4. For this time period, the worst-case impact location was shown to have the 99th percentile daily maximum 1-hour average SO_2 concentration in excess of the NAAQS by about a factor of 2.7.

Table 6-4

1-Hour SO_2 Modeling Results – Top 10 Results
Average of the 4th Highest Daily Maximum 1-Hr Concentration
Time Period Modeled: November 14, 2011 through June 30, 2014
Asheville Station; Asheville, NC – Actual SO_2 Emissions
Concentrations in Micrograms per Cubic Meter

X Coordinate	Y Coordinate	Concentration
363100	3929800	526.23
363200	3929900	526.15
363300	3930000	502.57
363300	3929900	501.15
362900	3928500	494.46
363400	3930100	492.55
363000	3928500	489.18
363000	3928500	489.18
363000	3929700	488.51
362900	3928300	487.85

6.5 Discussion

6.5.1 NAAQS Concentration

The AERMOD emissions modeling for the Duke Energy Asheville Plant, using actual SO_2 emissions data over the period of interest (August 2010 through June 2014) demonstrated that various receptor locations surrounding the Asheville Plant exceeded the 1-hour average NAAQS for SO_2, based on the average of the 99th percentile daily maximum concentrations determined over the period of interest. This conclusion is valid regardless of the time interval considered in the modeling analysis.

Table 6-5 lists the number of days for each time interval modeled where the calculated daily maximum 1-hour average SO_2 concentration exceeded the NAAQS at any receptor. The maximum modeled SO_2 concentration, based on the average of the 99th percentile concentration over the period modeled, is also shown in Table 6-5.

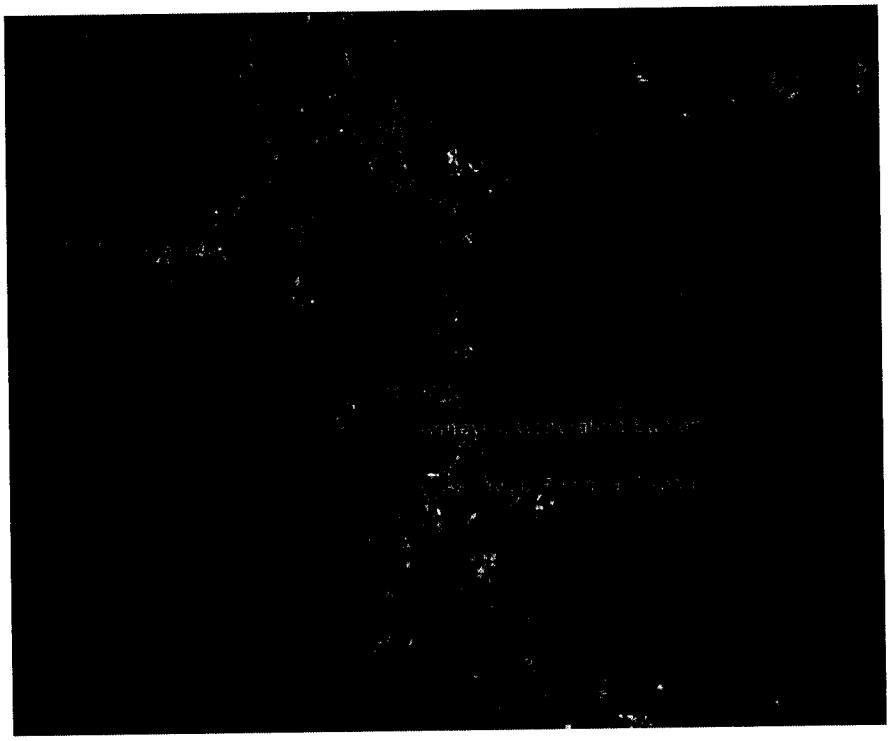
Table 6-5

Days Exceeding NAAQS at any Receptor
Asheville Station; Asheville, NC – Actual SO_2 Emissions
Concentrations in Micrograms per Cubic Meter

Model Scenario	Start Date	End Date	Total Days	Modeled Days Above NAAQS	Percent	Modeled SO_2 Concentration
1	8/23/2010	6/30/2014	1408	448	31.82%	696.29
2	1/1/2011	12/31/2013	1096	334	30.47%	554.25
3	7/1/2011	6/30/2014	1096	295	26.92%	571.51
4	11/14/2011	6/30/2014	960	250	26.04%	526.23

Depending on the time interval selected, the number of days calculated to exceed the NAAQS ranges from about 26% up to about 32%. This means that approximately one out of every 3-4 days had a calculated SO_2 concentration that was above the NAAQS, based on modeling of the actual SO_2 emissions from the Duke Energy Asheville Station.

Figure 6-1 shows the receptor locations where a modeled concentration above the 1-hour average SO_2 NAAQS occurred. These receptors have been overlayed onto a Google Earth image in order to provide some perspective as to where the SO_2 NAAQS exceedances occurred. Figure 6-1 also shows the concentration contours with the darker colors indicating higher modeled SO_2 concentrations. The concentration contours in Figure 6-1 are based on the modeling for the October 23, 2010 through October 22, 2013 time period. However, the locations of receptors where modeled concentrations exceed the NAAQS were approximately the same for all of the time intervals modeled. Similar graphics for the other time periods modeled are shown in Appendix C.



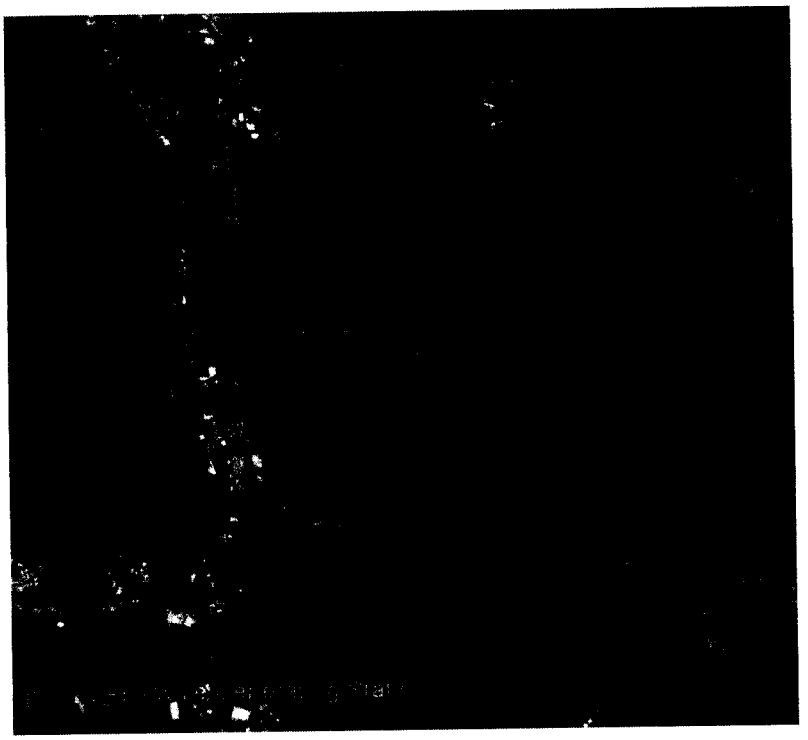


Figure 6-1.
Asheville Plant Modeling – SO_2 NAAQS Exceedance Locations
Contours show with darker colors indicating higher modeled SO_2 concentrations
Based on modeling for the August 23, 2010 through August 22, 2013 time interval.

As shown by the figure, there is a cluster of exceeding receptors east of Skyland, located in and near a populated residential area. In this area, the receptors with a calculated SO_2 NAAQS exceedance also appear to be correlated with elevation, and generally occurred when the ground-level elevation was in the range of 2,700 to 2,800 ft MSL.

The modeled NAAQS exceedances occurred in all directions from the Duke Energy Asheville Plant. Most of the receptors with concentrations above the NAAQS occurred at higher elevations where the Asheville Plant plume impinged on elevated terrain. To the south, additional receptors exceeding the NAAQS also occurred in adjacent Henderson County.

6.5.2 Calculation of the Maximum Allowable SO_2 Emission Rate

As documented above, emissions from the Duke Energy Asheville Plant cause local SO_2 concentrations to exceed the 1-hour average NAAQS, based on air dispersion modeling of actual emissions and concurrent meteorological dispersion conditions. In this section, modeling was conducted to determine a maximum allowable hourly SO_2 emission rate that would assure that ambient SO_2 concentrations are below the NAAQS.

For this modeling evaluation, a constant emission SO_2 emission rate was determined that would result in the three-year average of the 99th percentile daily maximum concentration equaling the NAAQS (196 micrograms per cubic meter). The emissions at Unit #1 and Unit #2 were assumed to be equal for this analysis. This particular modeling evaluation was based on the calendar year 2011-2013 meteorological data described previously, which is the most recent period where a complete calendar year of data were available for each year.

The modeled SO_2 emission rate that resulted in an AERMOD prediction equal to the 1-hour average NAAQS was 7.78 grams per second, or 61.7 lb/hr for each unit (123.4 lb/hr combined for Units #1 and #2). Based on the BTU rating of each boiler as listed in the Asheville Plant Title V operating permit (2,155 MMBtu/hr at Unit #1 and 2,102 MMBtu/hr at Unit #2), this SO_2 emissions rate would equate to an average rate across both units of 0.029 lb/MMBtu.

The electronic file for this AERMOD modeling run is also provided in Appendix B.

7.0 SUMMARY & CONCLUSIONS

This report describes an air quality dispersion modeling analysis for sulfur dioxide (SO_2) emissions from the Duke Energy Asheville Plant located near Asheville, North Carolina. The air quality modeling analysis has been conducted to assess whether or not SO_2 emissions from the Asheville Plant cause or contribute to an exceedance of the National Ambient Air Quality Standards (NAAQS) for SO_2, specifically the 75 parts per billion 1-hour average NAAQS. The ARS modeling analysis used 196 micrograms per cubic meter (ug/m^3) to represent the 75 ppb NAAQS level.

The air quality modeling analysis has been prepared by Air Resource Specialists, Inc. (ARS) on behalf of Sierra Club. The Asheville Plant modeling applied the US Environmental Protection Agency (USEPA) AERMOD dispersion model, which is the approved regulatory model in 40 CFR 51 Appendix W for applications in the "near-field", defined as ambient air quality impacts within 50 kilometers (km) of the emissions unit. The modeling approach follows the applicable dispersion modeling guidance found in 40 CFR 51 Appendix W and accompanying State of North Carolina guidelines.

All modeling was based on the actual SO_2 emissions reported for the Asheville Plant in EPA's Air Markets Program Data and the actual meteorological conditions occurring for the specific hour of those emissions. In this manner, the ARS modeling study followed the recommendations in EPA's *SO_2 NAAQS Designations Modeling Technical Assistance Document (DRAFT - December 2013).*

ARS modeling analysis considered SO_2 emissions over the time period starting August 23, 2010 through June 30, 2014. August 23, 2010 is the first day that the 1-hour SO_2 NAAQS was effective under USEPA regulations and information on SO_2 emissions from the USEPA Air Markets Program Data was only available through June 30, 2014 at the time this modeling evaluation was initiated.

Meteorological inputs for the modeling were taken from concurrent National Weather Service surface observations collected at the Asheville Regional Airport coupled with upper air observations collected at Greensboro, NC. The Asheville Regional Airport is located in close proximity to the Asheville Station., e.g., within about 4 km (2.5 miles). The proximity of the Asheville Regional Airport to the Duke Energy Asheville Station makes the Asheville meteorological data representative of the general turbulence and dispersion conditions across the modeling domain.

Other required data for the AERMOD modeling (stack height, etc.) were taken from publically available data and/or information supplied by the Western North Carolina Regional Air Quality Agency. The modeling study used the current regulatory versions of AERMET and AERMOD (Version 14143).

A NAAQS exceedance was determined if at least one receptor showed the multi-year average for the maximum daily 1-hour average SO_2 concentration was in excess of the NAAQS (75 ppb or 196 ug/m^3). This calculation was performed internally within AERMOD for the time period of interest. Again, all modeling was based on the actual SO_2 emissions reported for the Asheville Plant in EPA's Air Markets Program Data and the actual meteorological conditions occurring for the specific hour of those emissions.

Only complete data years were considered by AERMOD in the multi-year average. If the individual modeling year covered less than 365 days, that data was truncated and not considered when computing the multi-year average of the 4th highest daily maximum concentration. However, the individual 1-hour concentrations for the truncated year were calculated by the model and were available to the user in any external data processing outside of AERMOD.

The modeling analysis also underestimated the total SO_2 concentrations given that a "background" concentration for SO_2 was not considered. Any exceedances of the SO_2 NAAQS were thus attributable solely to the emissions from the Duke Energy Asheville Plant.

The Asheville Steam Electric Plant modeling calculated a peak 1-hour SO_2 concentration of about 696 ug/m^3 based on the three year average for the 99th percentile daily maximum for the period August 23, 2010 through August 22, 2013. This concentration was almost a factor of 3.5 above the USEPA NAAQS concentration. For other time period intervals considered, the peak multi-year average 1-hour SO_2 concentration was less, but still above the NAAQS by about a factor of three. Receptors predicted to exceed the NAAQS were concentrated in the Skyland area to the located northeast of the Ashville Plant at elevations were the power plant plume impinged on local terrain. However, receptors with SO_2 concentrations above the NAAQS were identified in nearly every direction from the Asheville Plant.

In addition, ARS computed the number of time periods over which a modeled concentration attributable to emissions from the Ashville Plant was calculated to be above the 1-hour SO_2 NAAQS at any modeled receptor. That analysis concluded that the modeled exceedances of the SO_2 NAAQS were frequent, occurring about once every 3 days over the period August 23, 2010 through June 30, 2014.

In conclusion, the AERMOD dispersion modeling completed by ARS demonstrates that the Duke Energy Asheville Steam Electric Plant causes ambient SO_2 concentrations exceeding the applicable 1-hour NAAQS. The AERMOD modeling also determined that the maximum allowable SO_2 emissions rate that would assure that ambient SO_2 concentrations are below the NAAQS was 61.7 lb/hr for each unit (123.4 lb/hr combined for Units #1 and #2), which equates to a plantwide average SO_2 emission rate of 0.029 lb/MMBtu.

Appendix A

Professional Resume of D. Howard Gebhart

D. HOWARD GEBHART
Environmental Compliance Section Manager

Air Resource Specialists, Inc.

EDUCATION

M.S. (b) (6) [redacted]
B.S.

MEMBERSHIPS

Air & Waste Management Association
National Weather Association
Colorado Mining Association
Nevada Mining Association
Nebraska Industrial Council on Environment

EXPERIENCE SUMMARY

Mr. Gebhart has nearly 30 years' experience in air quality permitting and compliance specializing in issues affecting regulated industries. His expertise lies with permitting and support of the ethanol industry. He manages the environmental compliance section at Air Resource Specialists, Inc., and provides technical studies and evaluations; and prepares models, client permit applications, and air emission calculations. He is well experienced in working with the federal Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act (RCRA), and many similar programs enacted in many states throughout the United States.

PROJECT EXPERIENCE

- Produces and manages quality assurance documents including quality management plans and quality assurance project plans.
- Provides technical studies and evaluations, prepares models, and prepares permit applications for a wide variety of clients.
- Provides emissions inventories, dispersion modeling, regulatory analysis and interpretation, and air compliance auditing.
- Prepares applications for new source permits under federal Prevention of Significant Deterioration (PSD) and state construction and operating permit programs.
- Provides technical studies supporting Environmental Impact Statements (EISs) and Environmental Assessments (EAs) under the National Environmental Policy Act (NEPA).
- Manages the Environmental Compliance Section team.
- Performs permitting and air quality studies for bio-fuel (ethanol), oil & gas petroleum, mining and minerals, semiconductor, and National Park Service projects, with experience representing both government and private clients.
- Performs air pathway evaluations for releases of hazardous air pollutants from Superfund sites, hazardous waste sites, and incinerators.
- Models the potential consequences of accidental releases of hazardous materials.

Appendix B

AERMOD Input-Output Files
(See Enclosed CD-ROM)

Appendix C

Asheville Plant Modeling – SO_2 Exceedance Locations

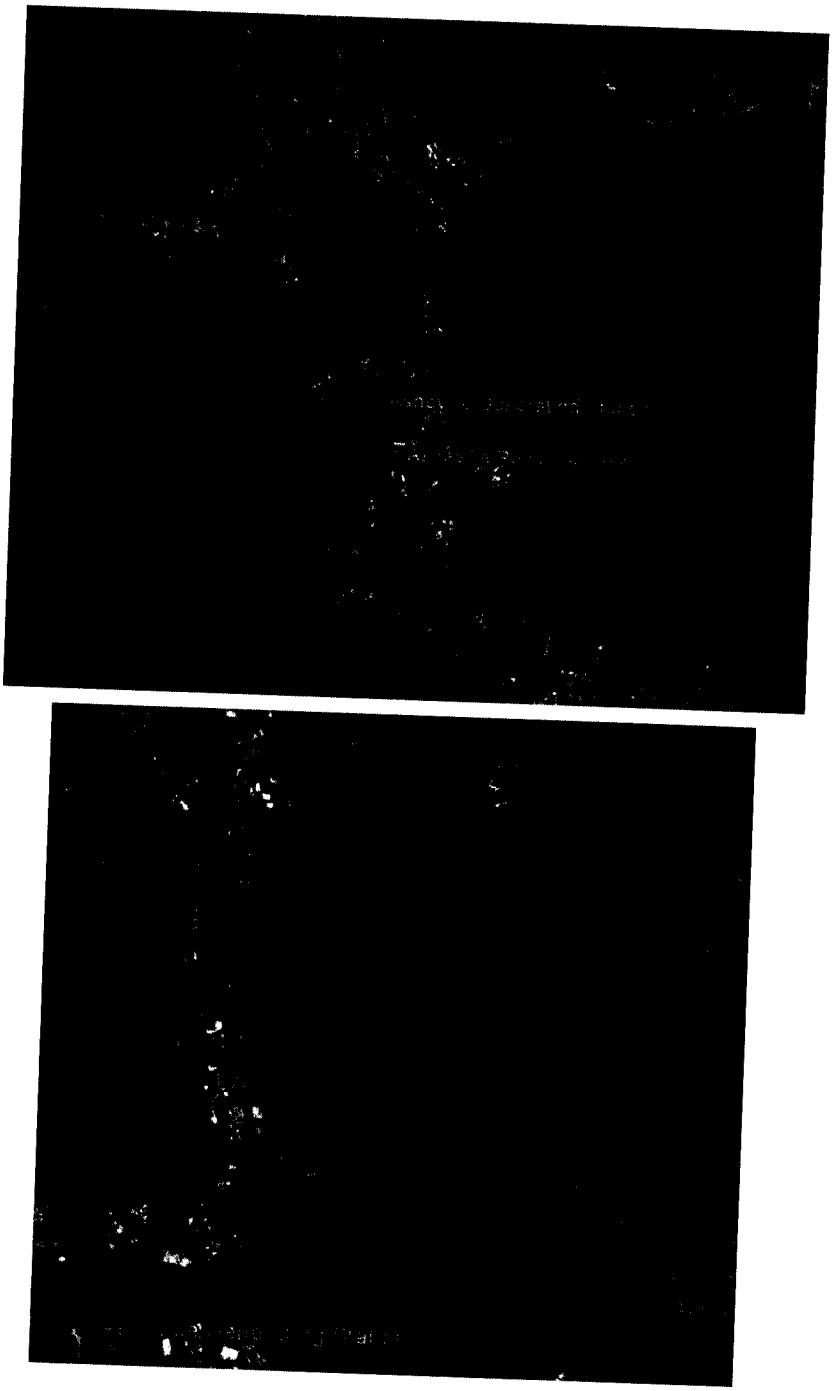
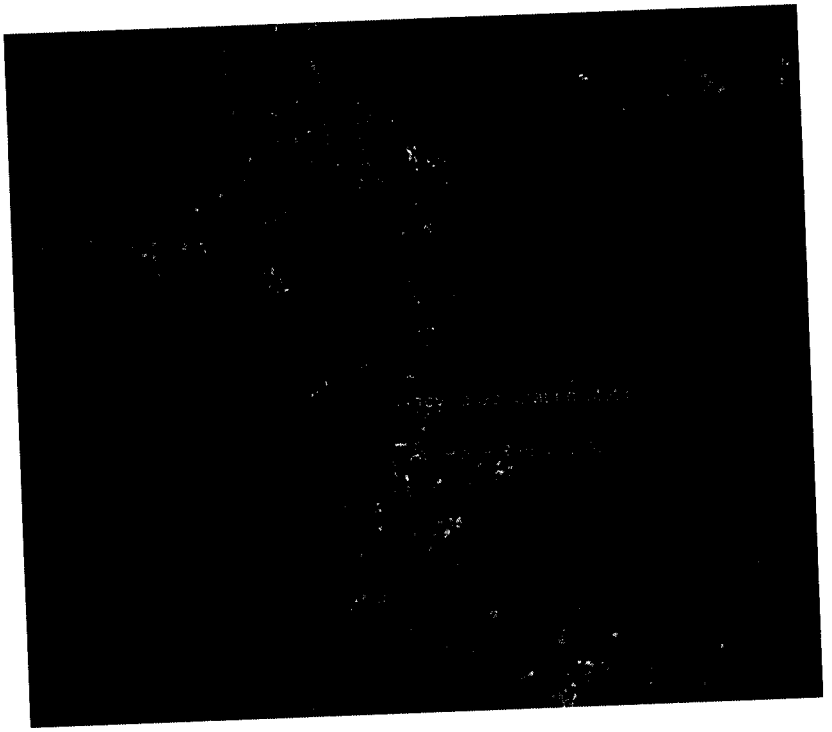


Figure C-1.
Asheville Plant Modeling – SO_2 NAAQS Exceedance Locations
Contours show with darker colors indicating higher modeled SO_2 concentrations
Based on modeling for the January 1, 2011 through December 31, 2013 time interval.



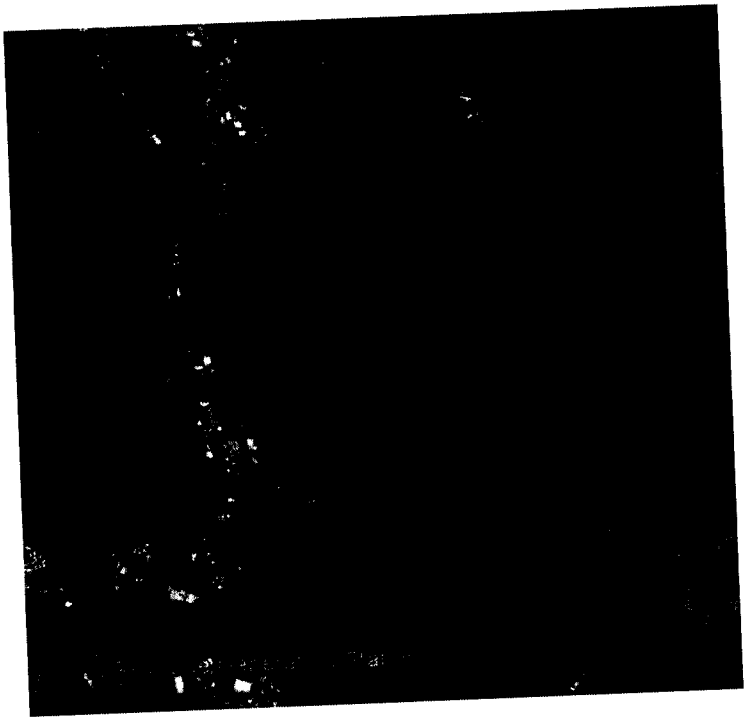


Figure C-2.
Asheville Plant Modeling – SO_2 NAAQS Exceedance Locations
Contours show with darker colors indicating higher modeled SO_2 concentrations
Based on modeling for the July 1, 2011 through June 30, 2014 time interval.

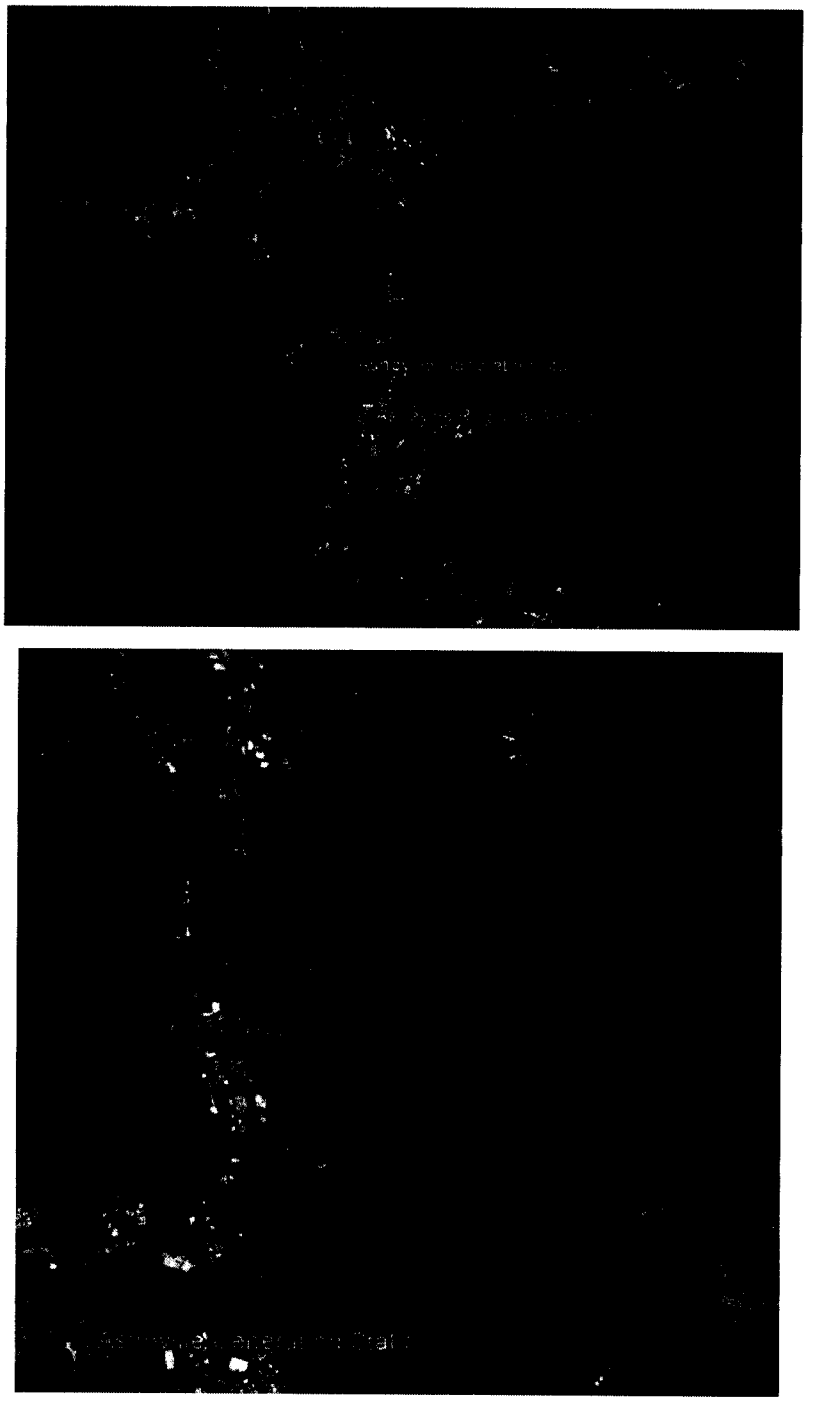


Figure C-3.
Asheville Plant Modeling – SO_2 NAAQS Exceedance Locations
Contours show with darker colors indicating higher modeled SO_2 concentrations
Based on modeling for the November 14, 2011 through June 30, 2014 time interval.

Law Office of Kathryn M. Amirpashaie, PLC
406 Blue Ridge Avenue NE, Leesburg, Virginia 20176

Kathryn M. Amirpashaie

Telephone: 703.771.8394
E-Mail: kmalawoffice@gmail.com

August 25, 2016

VIA CERTIFIED MAIL

Administrator Gina McCarthy
U.S. Environmental Protection Agency
Mail Code: 1101A
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

RE: Notice of Intent to Sue under the Federal Clean Air Act

Dear Administrator McCarthy:

This letter provides notice, pursuant to 42 U.S.C. § 7604(b), that the Sierra Club intends to file a citizen suit against the United States Environmental Protection Agency ("EPA") and the Administrator of the EPA, based on your failure to perform a nondiscretionary duty set forth under Title V of the Clean Air Act ("CAA" or "Act"). Specifically, Sierra Club intends to file suit over your failure to, within the timeframe required by Section 505(b)(2) of the Act,[1] grant or deny the petition submitted by Sierra Club seeking an objection by EPA to the Title V Operating Permit, Permit No. 11-628-15 (hereafter "Proposed Permit"), proposed by the Western North Carolina Regional Air Quality Agency ("WNCRAQA") for Duke Energy Progress, Inc.'s Asheville Steam Electric Plant ("Asheville Plant"), located in Buncombe County, North Carolina. Sierra Club's petition was mailed to EPA on June 17, 2016, via FedEx overnight delivery. As of today, more than 60 days have passed without EPA taking action on said petition, in violation of the Administrator's nondiscretionary duty under Section 505(b)(2) to grant or deny the petition within 60 days after it was filed.[2]

[1] *See* 42 U.S.C. § 7661d(b)(2).
[2] *Id.*

I. The Asheville Plant Is Subject to Title V of the Clean Air Act

Title V of the CAA requires specified sources of air pollution to obtain an operating permit from a permitting authority.[3] EPA delegated to North Carolina the authority to administer the CAA's Title V operating permit program within the state.[4] North Carolina adopted laws and regulations granting WNCRAQA, a local air agency, the authority to implement the program in Buncombe County and the City of Asheville.[5] WNCRAQA subsequently adopted regulations to fulfill this delegation.[6]

The previous Title V permit for the Asheville Plant was issued on January 18, 2011, and expired on May 31, 2015. WNCRAQA received Duke Energy's permit renewal application on August 22, 2014 and, on March 26, 2015, noticed a draft Title V permit renewal for public comment and scheduled a public hearing for April 29, 2015. "Written comments from the public were accepted via email and regular mail from March 26th until May 7, 2015."[7] On April 30, 2015, Sierra Club submitted timely comments on the draft permit, urging WNCRAQA to establish modeling-based, numerical emission limits stringent enough to ensure that the people of Asheville would no longer be exposed to unsafe amounts of sulfur dioxide.[8]

Among other issues raised in those comments, Sierra Club criticized the draft permit as failing to comply with requirements under the Clean Air Act and the WNCRAQA local implementation plan due to the impermissibly lenient proposed numerical limits for sulfur dioxide emissions.[9] More specifically, Sierra Club submitted air dispersion modeling demonstrating that the 24-hour, 2.3 lbs/MMBtu limits for sulfur dioxide emissions included in the draft permit were not stringent enough to ensure that compliance with such limits will ensure compliance with the applicable narrative prohibition that the Plant not cause downwind exceedances of the governing ambient air quality standard for sulfur dioxide.[10] To translate the narrative prohibitions into clear numerical emission limits, WNCRAQA needed to set one-hour

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[3] 42 U.S.C. § 7661a(a).

[4] Clean Air Act Final Full Approval of Operating Permit Programs; North Carolina, Mecklenburg County, and Western North Carolina, 66 Fed. Reg. 45,941 (Aug. 31, 2001).

[5] *See id; see also* N.C.G.S. § 143-215.112.

[6] *See generally* WNCRAQA Code §§ 17.0501 *et seq.*

[7] Western North Carolina Regional Air Quality Agency Memorandum, "Public Comments Regarding Proposed Title V Permit Renewal for Duke Energy Progress, Inc. – Asheville Steam Plant Facility," Nov. 16, 2015 (Revised Mar. 22, 2016), at 1, available at https://www.buncombecounty.org/common/wncAir/Memo%20to%20Board%20with%20Appendices.pdf.

[8] Sierra Club Comments on Draft Title V Permit Renewal for Duke Energy Progress' Asheville Steam Electric Plant, Permit No. 11-628-15 (Apr. 30, 2015).

[9] *Id.* at 8–10.

[10] *Id.*

limits of approximately 0.029 pounds of sulfur dioxide per MMBtu for the Asheville coal units—an emission rate that the Plant was achieving in 2006.

II. EPA Failed to Grant or Deny Sierra Club's Petition to Object to the Proposed Permit for the Asheville Plant within the Statutorily Required Timeframe

As per CAA section 505(b)(1), within 45 days of receipt of a proposed Title V permit, the Administrator of the EPA "shall . . . object" to the permit's issuance if it "contains provisions that are determined by the Administrator as not in compliance with the applicable requirements" of the CAA and "the requirements of an applicable implementation plan."[11] If EPA does not object during this period, any person may petition the Administrator for issuance of an objection within 60 days after the expiration of the 45-day review period.[12] Accordingly, the timing for EPA to object to the Proposed Permit for Asheville and for the public to petition EPA to object to the Proposed Permit was as follows: WNCRAQA submitted the proposed permit to EPA on April 15, 2016; EPA's 45-day review period ended on May 30, 2016; and the 60-day public petition period ended on July 29, 2016.

EPA did not object to the Asheville Proposed Permit within the allotted 45-day time frame. Consequently, Sierra Club filed a petition to object to the Proposed Permit on June 17, 2016, within 60 days after the expiration of EPA's 45-day review period, in accordance with 42 U.S.C. § 7661d(b)(2). The Petition to EPA was properly based on issues raised during the public comment period for the Proposed Permit. Specifically, Sierra Club's Petition showed that the Proposed Permit lacks the conditions necessary to ensure compliance with applicable requirements that prohibit the exceedance of governing ambient air quality standards—*i.e.*, sufficiently stringent numerical limits on the emission of sulfur dioxide.

According to CAA section 505(b)(2) of the CAA, the Administrator was required to respond to Sierra Club's June 17, 2016 petition to object within 60 days, either granting or denying the petition.[13] However, as of August 25, 2016, EPA has yet to respond to the petition to object to Asheville's Title V Permit.

III. Citizens May Sue EPA for Failure to Timely Grant or Deny a Petition to Object

Section 304(a)(2) of the CAA provides that any person may sue the Administrator of the EPA "where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary."[14] Section 505(b)(2) of the CAA expressly provides that the "Administrator shall grant or deny [a petition to object] within 60 days after the petition is

[11] 42 U.S.C. § 7661d(b)(1).
[12] 42 U.S.C. § 7661d(b)(2).
[13] *Id.* ("The Administrator shall grant or deny such petition within 60 days after the petition is filed.").
[14] 42 U.S.C. § 7604(a)(2).

filed."[15] This provision imposes a mandatory, nondiscretionary duty upon EPA to act within 60 days of the filing of a petition under this section. Accordingly, in the event that the Administrator fails to perform this nondiscretionary duty, citizens may bring suit to compel such action.

IV. Sierra Club Intends to File a Citizen Suit to Compel EPA to Grant or Deny the Petition to Object

Sierra Club filed a timely petition to object to the Proposed Title V Permit for the Asheville Plant on June 17, 2016. The Administrator had 60 days to grant or deny the petition to object to the Proposed Permit.[16] To date, the Administrator has not granted or denied the Petition to Object. Therefore, the Administrator has failed to perform the nondiscretionary duty to grant or deny Sierra Club's Petition within the statutorily mandated time frame, in violation of 42 U.S.C. § 7661d(b)(2).

The CAA requires citizens to provide the Administrator with 60 days notice prior to bringing an action under CAA section 304(a)(2) where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator.[17] Accordingly, Sierra Club hereby notifies EPA and the Administrator of its intent to file suit under CAA section 304(a)(2) for failing to perform the nondiscretionary duty of granting or denying Sierra Club's June 17, 2016 petition to object to the proposed Title V permit for the Asheville Plant. If the violation remains unresolved at the end of the 60-day notice period, Sierra Club intends to seek the following relief:

1. An order compelling EPA and the Administrator to grant or deny Sierra Club's Petition within 60 days from the date of the order;
2. Attorneys' fees and other litigation costs; and
3. Other appropriate relief as allowed.

If you would like to discuss the matters identified in this letter or offer a proposal for resolving this issue, please contact me directly at kmalawoffice@gmail.com or (703) 771-8394.

Sincerely,

/s Kathryn Amirpashaie

---

[15] 42 U.S.C. § 7661d(b)(2) (emphasis added).
[16] *See id.*
[17] *Id.; see also* 40 C.F.R. § 54.2(a).

Kathryn M. Amirpashaie, Esq.
Law Office of Kathryn M. Amirpashaie, PLC
406 Blue Ridge Avenue NE
Leesburg, VA 20176
Tel.: 703.771.8394
E-mail: kmalawoffice@gmail.com

Bridget Lee, Esq.
The Sierra Club
50 F Street NW, Eighth Floor
Washington, DC 20009
Tel.: 202.675.6275
E-mail: bridget.lee@sierraclub.org

Counsel for the Sierra Club

cc via e-mail only:

Kristi M. Smith (smith.kristi@epa.gov)
Michael Lee (lee.michaelg@epa.gov)
Heather McTeer Toney (mcteertoney.heather@epa.gov)
Heather Ceron (ceron.heather@epa.gov)
Carol Kemker (kemker.carol@epa.gov)
Keri Powell (powell.keri@epa.gov)

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Sent To Asheville (NOI) Admin Gina McCarthy

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SIERRA CLUB

RECEIVED
JUN 2 2016
Air Planning & Implementation Branch

June 17, 2016

Via Overnight Delivery

Gina McCarthy
Administrator
U.S. Environmental Protection Agency
Mail Code: 1101A
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Heather McTeer Toney
Regional Administrator
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Re: Petition Requesting that the Administrator Object to Issuance of the Proposed Title V Operating Permit for the Asheville Steam Electric Plant

Dear Administrator McCarthy and Regional Administrator McTeer Toney:

Enclosed please find Sierra Club's Petition Requesting that the Administrator Object to Issuance of the Proposed Title V Operating Permit for the Asheville Steam Electric Plant, Permit No. 11-628-15. Also enclosed is a disc containing an electronic copy of the petition and all accompanying exhibits.

Please let me know if there is anything additional that I can provide.

Sincerely,

/s Bridget Lee

Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
(202) 675-6275
bridget.lee@sierraclub.org

cc via U.S. mail with attachments:

Beverly Banister
Air, Pesticides, and Toxics Management Division Director
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Heather Ceron
Air Permits Section Chief
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

David Brigman
Director
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801

Betsy Brown
Air Quality Supervisor
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801

Harry Sideris
Vice President, Carolinas West
Duke Energy Progress, Inc.
410 S. Wilmington Street
Raleigh, NC 27601

Garry A. Whisnant
Plant General Manager, Asheville Steam Electric Plant
Duke Energy Progress, Inc.
200 CP&L Drive
Arden, NC 28704

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

June 30, 2016

Ms. Bridget M. Lee
Staff Attorney
Sierra Club
50 F Street, NW
8th Floor
Washington, DC 20001-1530

Dear Ms. Lee:

On June 24, 2016, the U.S. Environmental Protection Agency Region 4 received your petition regarding Duke Energy Progress' Asheville Steam Electric Plant located in Buncombe County, North Carolina. In accordance to the procedures set forth in 40 CFR § 70.8, the EPA is currently reviewing your request that the EPA object to the issuance of a title V operating permit (#11-628-15) to the above-referenced facility by the Western North Carolina Regional Air Quality Agency. The EPA will promptly send you the Administrator's Final Order responding to your petition upon its issuance.

The EPA appreciates your interest in air quality issues in the State of North Carolina. If you have additional questions or comments, please contact Terry Johnson of the EPA Region 4 staff at (404) 562-8950.

Sincerely,

Carol L. Kemker

Carol L. Kemker
Acting Director
Air, Pesticides and Toxics Management Division

cc: David Brigman, Director
Western North Carolina Regional Air Quality Agency

WESTERN NORTH CAROLINA
REGIONAL AIR QUALITY AGENCY

AIR QUALITY PERMIT

Until such time as this permit expires or is modified or revoked, the below named Permittee is authorized to operate, as outlined in Part I, "Air Quality Title V Operation Permit", and to construct and operate, as outlined in Part II, "Air Quality Construction and Operation Permit", the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of the Western North Carolina Regional Air Quality Agency Air Quality Code (WNCRAQA Code) and is subject to all requirements therein.

Pursuant to WNCRAQA Code Chapter 17, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the Western North Carolina Regional Air Quality Agency and received an Air Quality Permit, except as provided in this permit.

Permittee:	**Duke Energy Progress, Inc.** **Asheville Steam Electric Plant**
Facility ID:	11-628
Facility Site Location:	200 CP&L Drive
City, State, Zip:	Arden, North Carolina 28704
Facility Mailing Address:	200 CP&L Drive
City, State, Zip:	Arden, North Carolina 28704
Permit Number:	11-628-16
Replaces Permit Number:	11-628-10D
Issue Date:	July 11, 2016
Effective Date:	August 1, 2016
Renewal Application Due Date:	October 31, 2020
Expiration Date:	July 31, 2021

David A. Brigman, Director

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WESTERN NORTH CAROLINA REGIONAL AIR QUALITY AGENCY

AIR QUALITY PERMIT

Until such time as this permit expires or is modified or revoked, the below named Permittee is authorized to operate, as outlined in Part I, "Air Quality Title V Operation Permit", and to construct and operate, as outlined in Part II, "Air Quality Construction and Operation Permit", the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of the Western North Carolina Regional Air Quality Agency Air Quality Code (WNCRAQA Code) and is subject to all requirements therein.

Pursuant to WNCRAQA Code Chapter 17, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the Western North Carolina Regional Air Quality Agency and received an Air Quality Permit, except as provided in this permit.

Permittee:	**Duke Energy Progress, Inc. Asheville Steam Electric Plant**
Facility ID:	**11-628**
Facility Site Location:	**200 CP&L Drive**
City, State, Zip:	**Arden, North Carolina 28704**
Facility Mailing Address:	**200 CP&L Drive**
City, State, Zip:	**Arden, North Carolina 28704**
Permit Number:	**11-628-15**
Replaces Permit Number:	**11-628-10D**
Issue Date:	**May 11, 2015**
Effective Date:	**June 1, 2015**
Renewal Application Due Date:	**August 31, 2019**
Expiration Date:	**May 31, 2020**

David A. Brigman, Director

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PART I - AIR QUALITY TITLE V OPERATION PERMIT

The Western North Carolina Regional Air Quality Agency (WNCRAQA), the United States Environmental Protection Agency (EPA), and citizens as defined under the Federal Clean Air Act have the authority to enforce the terms, conditions, and limitations contained in Part I of this permit unless otherwise specified.

Under WNCRAQA Code Chapter 17, the operation of emission source(s) and associated air pollution control device(s) listed in Part I of this permit is based on plans, specifications, operating parameters, and other information as submitted in the Air Quality Permit Application.

SECTION 1 - PERMITTED EMISSION SOURCE(S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S)

The following table contains a summary of all permitted emission sources and associated air pollution control devices:

Emission Source ID	Emission Source Description	Control Device ID	Control Device Description
Unit 1 Boiler	One (1) 2,155 million BTU per hour (nominally rated) Riley Stoker pulverized coal-fired boiler equipped with low NO_X burners and alkaline-based fuel additive[1]	Unit 1 SCR	One (1) selective catalytic reduction system[2]
		Unit 1 ESP	One (1) electrostatic precipitator
		Unit 1 FGD	One (1) flue gas desulfurization system[3]
Unit 2 Boiler	One (1) 2,102 million BTU per hour (nominally rated) Babcock & Wilcox pulverized coal-fired boiler equipped with low NO_X burners and alkaline-based fuel additive[1]	Unit 2 SCR	One (1) selective catalytic reduction system[2]
		Unit 2 ESP	One (1) electrostatic precipitator
		Unit 2 FGD	One (1) flue gas desulfurization system[3]
Unit 3 IC Turbine	One (1) 1,929 million BTU per hour (nominally rated) General Electric natural gas / No. 2 fuel oil-fired simple cycle internal combustion turbine	NA	NA
Unit 4 IC Turbine	One (1) 1,929 million BTU per hour (nominally rated) General Electric natural gas / No. 2 fuel oil-fired simple cycle internal combustion turbine	NA	NA
Limestone Crusher	One (1) 150-ton per hour crusher	LC-BF-1	One (1) bagfilter

[1] Alkaline-based fuel additive may be used on an as-needed basis not to exceed 4 pounds per ton of coal burned. Fuel additives shall not contain any toxic air pollutants listed in WNCRAQA Code 17.0711. Fuel additive products not equivalent to those specified in the Application Addendum dated November 4, 2010 are not allowed without a permit modification.

[2] For ozone season NO_X control and compliance with the North Carolina Clean Smokestacks Act (SB 1078 – Air Quality / Electric Utilities Bill). To be operated on an as needed basis. A sulfur trioxide (SO_3) mitigation system can be used when needed in conjunction with each SCR.

[3] For compliance with the North Carolina Clean Smokestacks Act (SB 1078 – Air Quality / Electric Utilities Bill). To be operated on an as-needed basis.

Emission Source ID	Emission Source Description	Control Device ID	Control Device Description
Limestone Conveyor 1	One (1) 150-ton per hour belt conveyor measuring 270 feet x 24 inches	NA	NA
Limestone Conveyor 2	One (1) 150-ton per hour belt conveyor measuring 408 feet x 24 inches	CONV-BF-2	One (1) bagfilter
Limestone Conveyor 3	One (1) 150-ton per hour belt conveyor measuring 44 feet x 24 inches	NA	NA
Limestone Bin 1	One (1) 400-ton capacity storage bin	LDB-BF-1	One (1) bagfilter
Limestone Bin 2	One (1) 400-ton capacity storage bin	LDB-BF-2	One (1) bagfilter
Sorbent 1	One (1) 40-50-ton capacity sorbent receiving trailer	SORB-DC-1	One (1) dust collector controlling Sorbent 1 and Sorbent 2
Sorbent 2	One (1) approximately 18-ton capacity sorbent metering trailer		
Emergency Generator 1	One (1) diesel-fired emergency-use generator with a rated output capacity of 380 horsepower	NA	NA
Fire Pump Engine 1	One (1) diesel-fired emergency-use fire pump engine with a rated output capacity of 370 horsepower	NA	NA

SECTION 2 - SPECIFIC CONDITIONS AND LIMITATIONS

The emission sources and associated air pollution control devices listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

2.1 - Emission Source ID Unit 1 Boiler & Unit 2 Boiler

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Sulfur dioxide	2.3 pounds per million BTU heat input	WNCRAQA Code 4.0516
	Phase II Acid Rain Permit Requirements (see Section 4)	WNCRAQA Code 17.0402

Regulated Pollutant	Limits / Standards	Applicable Regulation
Nitrogen oxides	When burning only oil or natural gas - 0.8 pounds per million BTU heat input; When burning only coal - 1.8 pounds per million BTU heat input; When burning both coal and oil or natural gas in combination - as calculated by the equation E = [(Ec)(Qc) + (Eo)(Qo)] / Qt, where: E = emission limit in pounds per million BTU heat input Ec = 1.8 pounds per million BTU heat input Eo = 0.8 pounds per million BTU heat input Qc = coal heat input in BTU per hour Qo = oil and gas heat input in BTU per hour Qt = Qc + Qo	WNCRAQA Code 4.0519
Nitrogen oxides	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
	Phase II Acid Rain program requirements (see Section 4)	WNCRAQA Code 17.0402
Visible emissions	40 percent opacity	WNCRAQA Code 4.0521
	Local-enforceable only: Unit 1 Boiler - 10 percent annual average opacity; Unit 2 Boiler - 5 percent annual average opacity	WNCRAQA Code 4.0536
Particulate matter	0.12 pounds per million BTU heat input	WNCRAQA Code 4.0536
Mercury	See Section 2.1(J)	WNCRAQA Code 4.2500
Excess emissions	Malfunction abatement plan	WNCRAQA Code 4.0535
Various	As defined in specific condition	WNCRAQA Code 4.0530(u)
Hazardous Air Pollutants	As defined in specific condition	WNCRAQA Code 4.1111 (40 CFR 63, Subpart UUUUU)
Toxic air pollutants	Local-enforceable only: Recycled oil specifications	WNCRAQA Code 17.0700
	Local-enforceable only: Unit 1 Boiler - Waste oils / solvents specifications	
	Local-enforceable only: Boiler tube cleaning solution specifications	

(A) WNCRAQA CODE 4.0516 - SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0516 & 17.0508(b)]
Emissions of sulfur dioxide from each source shall not exceed 2.3 pounds per million BTU heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

(2) **Testing** [WNCRAQA Code 4.2611]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate

testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2611 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0516.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0608(e) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(A)(1) above, the Permittee shall determine sulfur dioxide emissions in pounds per million BTU using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the sulfur dioxide emission limitation shall be determined by averaging hourly CEMS values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any 24-hour block average exceeds the limitation given in Section 2.1(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0516.

(4) **Reporting** [WNCRAQA Code 4.0608(g)(2) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(5) **Reporting/CEMS Availability** [WNCRAQA Code 4.0608(g)(2) & 17.0508(f)]
The Permittee shall submit sulfur dioxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(B) WNCRAQA CODE 4.0519 - CONTROL OF NITROGEN DIOXIDE AND NITROGEN OXIDES EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0519 & 17.0508(b)]
Emissions of nitrogen oxides from each source shall not exceed 0.8 pounds per million BTU heat input when combusting oil or natural gas alone. Emissions of nitrogen oxides from these sources shall not exceed 1.8 pounds per million BTU heat input when combusting coal alone. Emissions of nitrogen oxides from these sources when combusting both coal and oil or natural gas in combination shall not exceed the limit calculated by the following equation:

$$E = [(Ec)(Qc) + (Eo)(Qo)] / Qt,$$

where:
E = emission limit for combination in pounds per million BTU
Ec = 1.8 pounds per million BTU heat input for coal only
Eo = 0.8 pounds per million BTU heat input for oil or natural gas
Qc = actual coal heat input to the combination in BTU per hour
Qo = actual oil and natural gas heat input to the combination in BTU per hour
Qt = Qc + Qo.

(2) **Testing** [WNCRAQA Code 4.2612]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2612 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(B)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0519.

(3) **Monitoring** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
To assure compliance with the limitations given in Section 2.1(B)(1) above, the Permittee shall determine nitrogen oxide emissions in pounds per million BTU using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the nitrogen oxides emission limitations shall be determined by averaging hourly CEMS values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75.

For monitoring purposes, the following emission limits apply:

(a) When only coal is burned, the emission limit shall be 1.8 pounds per million BTU heat input;

(b) When only oil or natural gas is burned, the emission limit shall be 0.8 pounds per million BTU heat input; or

(c) When oil or natural gas is burned other than for startup and for periods greater than 24 hours, the emission limit shall be calculated according to the equation in Section 2.1(B)(1) above.

If any 24-hour block average exceeds the limitations given in Section 2.1(B)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0519.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
Records (written or electronic format) of monthly coal, oil, and natural gas consumption shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(5) **Reporting** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(6) **Reporting/CEMS Availability** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The Permittee shall submit nitrogen oxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(C) WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0521(c) & 17.0508(b)]
Visible emissions from each source shall not exceed 40 percent opacity when averaged over a six-minute period.

(2) **Testing** [WNCRAQA Code 4.2610]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0521(g), 4.0606, 4.0612, & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(C)(1) above, the Permittee shall either:

- install, maintain, and operate a COMS for measuring the opacity of emissions (and follow the COMS Monitoring Option), or

- install, maintain, and operate a PM CEMS (and follow the PM CEMS Monitoring Option).

The Permittee shall submit a written notification to the WNCRAQA at least 30 days before changing the compliance monitoring option.

(a) **COMS Monitoring Option**
When using this option, the Permittee shall determine opacity using a COMS meeting the requirements of Appendix P of 40 CFR Part 51 and/or 40 CFR Part 75. Compliance with the opacity limitation shall be calculated using six-minute averages of the COMS values. Excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under WNCRAQA Code 4.0535:

(i) No more than 4 six-minute periods shall exceed the opacity limitation in any one day; and

(ii) The percent of excess emissions (defined as the percentage of monitored operating time in a calendar quarter above the opacity limit) shall not exceed 0.8 percent of the total operating hours. If a source operates less than 500 hours during a calendar quarter, the percent of excess emissions shall be calculated by including hours operated immediately previous to this quarter until 500 operational hours are obtained.

(b) **PM CEMS Monitoring Option**
When using this option, opacity shall be measured by conducting Method 9 performance tests in accordance with §60.45(b)(7) following the schedule in §60.45(b)(7)(i). Records shall be maintained according to the requirements specified in §60.45(h)(1) for all Method 9 performance tests required. The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521 if the monitoring is not performed, if the monitored values exceed the limitations given above, or if the records are not maintained. For the purposes of this condition, it is not necessary to submit a testing protocol prior to the scheduled test date, as specified in General Condition JJ, if no changes are being made to the most recently approved previous protocol used for Method 9 testing under this condition. If the most recently approved previous protocol is to be used for testing, it shall be submitted with the test report. Excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under WNCRAQA Code 4.0535:

(i) No six-minute period shall exceed 90 percent opacity;

(ii) No more than 1 six-minute period shall exceed the opacity limitation in any one hour; and

(iii) No more than 4 six-minute periods shall exceed the opacity limitation in any one day.

(4) **Reporting** [WNCRAQA Code 4.0606 & 17.0508(f)]

(a) **COMS Monitoring Option**
When using this option, the Permittee shall submit excess emissions and monitor downtime reports as required under Appendix P of 40 CFR Part 51 no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. For periods of excess emissions, defined as each six-minute period average greater than 40 percent opacity, the opacity measurements recorded by the COMS shall be reported as described in Paragraphs 4.0 and 5.1 of Appendix P of 40 CFR Part 51 except that a six-minute time period shall be deemed as an appropriate alternative opacity averaging period as described in Paragraph 4.2 of Appendix P of 40 CFR Part 51. A minimum of 36 data points, equally spaced, is required to determine a valid six-minute value. All instances of deviations from the requirements of this permit must be clearly identified.

(b) **PM CEMS Monitoring Option**
When using this option, the Permittee shall report the results of all Method 9 performance tests (required during the reporting period per the schedule in §60.45(b)(7)(i)) with the excess emissions and monitoring system performance reports no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(D) WNCRAQA CODE 4.0536 - PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS (ANNUAL AVERAGE OPACITY REQUIREMENTS - LOCAL-ENFORCEABLE ONLY)

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0536(b) & 17.0508(b)]
In addition to the limit given in Section 2.1(C)(1) above, visible emissions from the utility boiler units shall not exceed the following annual average opacity limits:

- Unit 1 Boiler - 10 percent; and

- Unit 2 Boiler - 5 percent.

(2) **Testing** [WNCRAQA Code 4.2609]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2609 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(D)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0536(g) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(D)(1) above, the Permittee shall follow either the COMS Monitoring Option or the PM CEMS Monitoring Option (described in Section 2.1(C)(3)).

(a) **COMS Monitoring Option**
When using this option, the Permittee shall determine opacity using a COMS meeting the performance specifications of Appendix B of 40 CFR Part 60. Each day an annual average opacity value shall be calculated for each unit for the most recent 365-day period ending with the end of the previous day. The average is the sum of the measured non-overlapping six-minute averages of opacity determined only while the unit is in operation divided by the number of such measured non-overlapping six-minute averages. Startup, shutdown, and non-operating time shall not be included in the annual average opacity calculation, but malfunction time shall be included.

(b) **PM CEM Monitoring Option**
When using this option, the Permittee shall calculate each day an annual average opacity value for the most recent 365-day period ending with the end of the previous day. The average is the sum of the measured non-overlapping one-hour averages of opacity determined only while the unit is in operation divided by the number of such measured non-overlapping one-hour averages. Start-up, shut-down, and non-operating time shall not be included in the annual average opacity calculation, but malfunction time shall be included. The hourly opacity values shall be determined using the PM CEMS hourly average output values as follows:

$$\text{Opacity, average for each hour} = \frac{(\text{Actual PM CEMS Output, average for each hour})(\text{Z, Opacity})}{(\text{Y, mg/m}^3)}$$

where: Y = The PM CEMS output value (mg/m^3) established during the initial PM CEMS PS-11 certification procedure that corresponds to 0.03 lb PM/MMBtu

Z = 5% opacity

(c) For periods of less than 365 days of operation using either the COM Monitoring Option or the PM CEMS Monitoring Option exclusively, the AAO shall be calculated as follows:

$$\text{AAO} = \frac{\sum_{i=1}^{Z}(\text{6 minute COMS block i}) + \left(\sum_{j=1}^{Y}(\text{1 hour PM CEMS block j})(\text{10 six-minute blocks/1 hour block})\right)}{Z + 10Y}$$

where: Z = Number of six-minute COM blocks of data within the 365-day look-back period

Y = Number of one-hour PM CEMS blocks of data within the 365-day look-back period

Note: 6 minute COMS block i and 1 hour PM CEMS block j refer to the opacity measurements determined from the COMS and PM CEMS, respectively.

(4) **Reporting** [WNCRAQA Code 4.0536(b) & 17.0508(f)]

(a) **COM Monitoring Option**
When using this option, the Permittee shall submit a report by the 30th day following the end of each month showing, for each day of the previous month, the calculated annual average opacity of each unit and the annual average opacity limit.

(b) **PM CEM Monitoring Option**
When using this option, the Permittee shall submit a report showing the calculated annual average opacity of each unit and the annual average opacity limit for each day during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

Quarterly excess emissions reports shall be used as an indication of good operation and maintenance of the electrostatic precipitators. These sources shall be deemed to be properly operated and maintained if the calculated one-hour average PM concentrations (mg/m^3) exceed the concentration (mg/m^3) corresponding to 0.03 pounds per million Btu heat input less than 3.0 percent of the total operating time, adjusted for monitor downtime, for any given calendar quarter. In addition, these sources shall be deemed to be properly operated and maintained if monitor downtime does not exceed 25 percent (10 percent beginning on January 1, 2012) for any given calendar quarter. If monitor downtime is greater than 2 percent for any given calendar quarter, the Permittee shall provide a full explanation in the quarterly excess emissions report, including actions taken to reduce monitor downtime to below 2 percent.

(E) WNCRAQA CODE 4.0536 - PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS (PARTICULATE MATTER REQUIREMENTS)

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0536(b) & 17.0508(b)]
Emissions of particulate matter from each utility boiler unit shall not exceed 0.12 pounds per million BTU of heat input.

(2) **Testing** [WNCRAQA Code 4.2609 & 4.0536(e)]
The Permittee shall produce each year for each unit at least one stack test for particulate matter in accordance with Method 5B of Appendix A of 40 CFR Part 60 and General Condition JJ. In the event that a boiler exceeds 80 percent of its particulate emission limit during the stack test, the Permittee shall schedule and conduct another stack test within 6 months. Upon demonstration that the source is operating under 80 percent of its particulate limit, as shown by three consecutive semiannual stack tests, the source may resume annual stack tests. If the results of any test are above the limit given in Section 2.1(E)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0614 & 17.0508(f)]
In addition to the stack test required in Section 2.1(E)(2) above, to provide a reasonable assurance of compliance with the limitation given in Section 2.1(E)(1) above, the Permittee shall follow either the COMS Monitoring Option or the PM CEMS Monitoring Option (described in Section 2.1(C)(3)).

(a) **COM Monitoring Option**
When using this option, the Permittee shall determine opacity using a COMS meeting the requirements of Appendix P of 40 CFR Part 51 and/or 40 CFR Part 75. Any opacity value in excess of the following indicator ranges shall be deemed an excursion as defined in 40 CFR Part 64:

- Unit 1 Boiler - 14 percent; and

- Unit 2 Boiler - 9 percent

The appropriate averaging period for which an excursion shall be determined is each 3-hour

block average of six-minute opacity averages beginning at midnight (total of eight 3-hour block periods each day). Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for data averages and calculations. The Permittee shall use all the data collected during all other periods in assessing the operation of the ESP.

For any excursion, the Permittee shall initiate an inspection of the control equipment and/or COMS, as appropriate, and make any necessary repairs. In addition to implementing procedures outlined in the malfunction abatement plan required under WNCRAQA Code 4.0535, the following corrective actions shall be taken:

(i) Control operator shall notify the shift supervisor or responsible official (plant manager or representative) in accordance with plant procedures;

(ii) System dispatcher shall be alerted if load reductions are anticipated;

(iii) The following operating practices and procedures shall be initiated as necessary:

- Identify cause of excursion;
- Isolate ESP field or increase power input to other fields if necessary;
- Reduce load, as necessary, to help minimize emissions;
- Proceed to shutdown or confirm malfunction conditions exist if emissions can not be controlled appropriately;
- Initiate work order for ESP inspection and repair as needed;

(iv) Nature and cause of excursion shall be documented in operations log;

(v) Provide notification to WNCRAQA as necessary.

If 5 percent or greater of COMS data (excluding startup, shutdown, and malfunction periods) recorded in a calendar quarter exceed the opacity values listed above, a stack test shall be performed in the following calendar quarter to demonstrate compliance with the limitation given in Section 2.1(E)(1) above. In the event that a unit exceeds 80 percent of its particulate emission limit during the stack test, the Permittee shall schedule and conduct another stack test within 6 months. Upon demonstration that the source is operating under 80 percent of its particulate limit, as shown by three consecutive semiannual stack tests, the source may resume annual stack tests. If a source operates less than 2,200 hours during any quarter, the source may evaluate 3-hour opacity values using operating data for the current quarter and the preceding quarters until 2,200 hours of data are obtained. If the result of any stack test is greater than any limit given in Section 2.1(E)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(b) **PM CEM Monitoring Option**

When using this option, compliance with the particulate limit in Section 2.1(E)(1) shall be determined using the PM CEMS. A measured exceedance of 0.10 pounds per million Btu of heat input (24-hour daily arithmetic average) shall be a violation of the corresponding emission standards in Section 2.1(E)(1).

(i) Each PM CEMS shall meet the requirements of Performance Specification PS-11 of Appendix B of 40 CFR Part 60, and shall be installed, evaluated, operated, and maintained according to the applicable requirements in §60.49Da(v), §§60.45(b)(5), (b)(7), and (g)(4). The Permittee shall have on file with the Director an approved quality

assurance program, and shall submit to the director within the time period of his request for his approval a revised quality assurance program to include the provisions of 40 CFR 60, Appendix F, Procedure 2 for the PM CEMS.

(ii) The initial performance evaluation shall be completed no later than 180 days after the date of notification to the WNCRAQA of the first instance the Permittee selects the compliance PM CEMS Monitoring Option.

(iii) The PM emission rate shall be determined based on a 24-hour daily (block) average of the hourly arithmetic average emissions concentrations using the CEMS outlet data each boiler operating day, except for data obtained during startup, shutdown, and malfunction. Averages are only calculated for boiler operating days that have valid data for at least 18 hours of unit operation during which the standard applies. All valid hourly emission rates on operating days not meeting the minimum 18-hour requirement shall be averaged with all of the valid hourly emission rates of the next boiler operating day meeting the minimum 18-hour requirement. The 24-hour block arithmetic average emission concentration shall be calculated using EPA Reference Method 19 of Appendix A of 40 CFR Part 60, section 12.4.1.

(iv) At a minimum, valid PM CEMS hourly averages shall be obtained for 75 percent of all operating hours on a 30-day rolling average basis. Beginning on January 1, 2012, valid PM CEMS hourly averages shall be obtained for a minimum of 90 percent of all operating hours on a 30-day rolling average basis. At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(v) The 1-hour arithmetic averages of PM CEMS data shall be expressed in pounds per million Btu and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of Subpart A of 40 CFR Part 60.

(vi) All valid PM CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph iv above are not met.

(vii) When PM emissions data are not obtained because of PM CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the WNCRAQA or EPA Reference Method 19 of Appendix A of 40 CFR Part 60 to provide, as necessary, valid emissions data for a minimum of 90 percent (only 75 percent is required prior to January 1, 2012) of all operating hours per 30-day rolling average.

(4) **Reporting** [WNCRAQA Code 4.0536(b), 4.0614, & 17.0508(f)]
The results of any stack test required in Section 2.1(E)(2) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. All instances of deviations from the requirements of this permit must be clearly identified.

(a) **COMS Monitoring Option**
When using this option, the results of any stack test required in Section 2.1(E)(3) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. In addition, the Permittee shall submit the following reports as required under §64.9 of 40 CFR Part 64 no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September:

(i) Summary information on the number, duration, and cause (including unknown cause, if

applicable) of excursions or exceedances, as applicable, and the corrective actions taken; and

(ii) Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable).

(b) **PM CEMS Monitoring Option**
When using this option, the Permittee shall submit excess emissions and monitoring system performance reports for PM no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. The report shall include, at a minimum, the information required in 40 CFR 60.7(c) and shall include all 24-hour daily (block) average excess emissions (pounds per million Btu) using the CEMS outlet data, including periods exempted during startup, shutdown, and malfunction. Within 15 days of a written request, report **all** PM CEMS hourly averages (in written or electronic form) to show, at a minimum, that valid PM CEMS hourly averages have been obtained for 90 percent (only 75 percent is required prior to January 1, 2012) of all operating hours on a 30-day rolling average basis.

(F) WNCRAQA CODE 4.0535 - EXCESS EMISSIONS REPORTING AND MALFUNCTIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0535(d) & 17.0508(b)]
All electric utility boiler units shall have a malfunction abatement plan approved by the Director as specified in WNCRAQA Code 4.0535(d).

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0535(d) & 17.0508(f)]
The Permittee shall maintain logs to show that the operation and maintenance sections of the malfunction abatement plan are implemented. These logs (written or electronic format) shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(G) WNCRAQA CODE 4.1111 - MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT - 40 CFR PART 63 SUBPART UUUUU)

The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with WNCRAQA Code 4 .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40CFR Part 63, Subpart UUUUU.

(H) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (RECYCLED OIL SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) **Emission Limitation/Standard** [WNCRAQA Code 17.0317(a)(8), 17.0700, & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, any recycled oil combusted in either Unit 1 Boiler or Unit 2 Boiler to replace No. 2 fuel oil for light-off and flame stabilization shall be shown equivalent to unadulterated fossil fuel prior to combustion by meeting the following criteria:

Constituent / Property	Allowable Level
Arsenic	1 ppm maximum
Cadmium	2 ppm maximum
Chromium	5 ppm maximum
Lead	100 ppm maximum

Constituent / Property	Allowable Level
Total Halogens	1,000 ppm maximum
Flash Point	100°F minimum
Sulfur	1.0% maximum
Ash	1.0% maximum

The Permittee is responsible for ensuring that the recycled oil meets the approved criteria for unadulterated fuel. The Permittee is held responsible for any discrepancies discovered by WNCRAQA as a result of any sampling and analysis of the oil.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 17.0317(b) & 4.0605]
The Permittee shall maintain at the facility for a minimum of three years, and shall make available to an authorized WNCRAQA representative upon request, accurate records of the following:

(a) The actual amount of recycled oil delivered to, and combusted at the facility on an annual basis; and

(b) Each load of recycled fuel oil received shall include the following:

(i) A delivery manifest document clearly showing the shipment content and amount, its place and date of loading, and place and date of destination;

(ii) A batch specific analytical report that contains an analysis for all constituents/properties listed above. Analytical results of the samples representative of the recycled oil shipment from the vendor shall be no more than one year old when received;

(iii) Batch signature information consisting of the following: a batch number, tank identification with batch volume of recycled oil, date and time the batch completed treatment, and volume(s) delivered; and

(iv) A certification indicating that the recycled fuel oil does not contain detectable PCBs (< 2 ppm).

WNCRAQA reserves the right to require additional monitoring and/or recordkeeping of the recycled oil without notice.

(3) **Reporting** [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall submit a summary report of the total recycled oil combusted and the results of the analytical testing by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

(I) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (WASTE OILS / SOLVENTS SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) **Emission Limitation/Standard** [WNCRAQA Code 17.0317(a)(8), 17.0700 & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, waste oils (either petroleum-derived or synthetic, used as a lubricant, hydraulic fluid, metal working fluid, insulating fluid, or coolant) and solvents (including acetone, methanol, methyl ethyl ketone, toluene, varsol, xylene, and waste solvent mixtures containing less than 10 percent (by volume) of any non-halogenated solvent not listed above as referenced by 40 CFR 261.31) shall only be combusted in Unit 1 Boiler as a waste disposal method according to the following conditions and stipulations:

(a) Only those waste oils / solvents generated at the Asheville, Marshall, or Walters sites may be combusted;

(b) No more than 100 gallons of plant employees used oil may be combusted in any calendar year;

(c) Total halogen content shall not exceed 1,000 micrograms per gram (parts per million);

(d) Total lead content shall not exceed 250 micrograms per gram (parts per million);

(e) Total PCB content of any insulating fluid or coolant shall not exceed 49 parts per million;

(f) Waste oils / solvents shall not be combusted during periods of startup, shutdown, or malfunction; and

(g) Total waste oils / solvents feed rate shall not exceed 300 gallons per hour and 10,000 gallons per calendar year.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall conduct monitoring/recordkeeping according to the following:

(a) A daily record of the amount of waste oils / solvents combusted shall be maintained onsite and made available to an authorized WNCRAQA representative upon request; and

(b) Chemical analysis conducted on waste oils / solvents combusted shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(3) **Reporting** [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall submit a summary report of the amount of waste oils / solvents combusted by January 30 of each calendar year for the preceding twelve-month period between January and December.

(J) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (BOILER TUBE CLEANING SOLUTION SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) **Emission Limitation/Standard** [WNCRAQA Code 17.0317(a)(8), 17.0700 & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, any boiler tube cleaning solution (such as ammonia / citric acid , ammoniated EDTA, ammonium persulfate, or similar materials upon request and approval of the Director) evaporated in either Unit 1 Boiler or Unit 2 Boiler shall be limited to a 145-gallon per minute maximum injection rate.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 17.0317(b) & 17.0508(f)]
A daily record of the amount of boiler tube cleaning solution injected in each boiler shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(3) **Reporting** [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall notify WNCRAQA at least five days prior to boiler tube cleaning solution evaporation.

(K) WNCRAQA CODE 4.2500 - MERCURY RULES FOR ELECTRIC GENERATORS - LOCAL-ENFORCEABLE ONLY

Note: Sections 4.2509 and .2511 are local-enforceable. All other sections of 4.2500 will not be enforced at this time.

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.2503(a) & 40 CFR 60.4106(f)]

Emissions of particulate matter from each utility boiler unit shall not exceed the following allocations:

(a) Unit 1 Boiler - 2010 - 2017: 621 ounces
- 2018 and later: 250 ounces; and

(b) Unit 2 Boiler - 2010 - 2017: 575 ounces
- 2018 and later: 232 ounces.

(2) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2503, .2505(a) and .2511]

(a) The emissions of mercury of an Hg budget source shall not exceed the number of allowances that it has in its compliance account according to Rule .2510 of this Section.

(b) The emissions measurements recorded and reported according to 40 CFR 60.4170 through 60.4176 shall be used to determine compliance by each source identified in this rule with its emissions limitation according to 40 CFR 60.4106(c).

(c) The provisions of 40 CFR 60.4106(d) shall be used for excess emissions.

(d) The owner or operator of a Hg budget unit covered under this Section shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 60.4106(b) and (e) and in 40 CFR 60.4170 through 60.4176.

(e) The Permittee shall comply with all applicable requirements of 15A NCAC 2D .2511 "Mercury Emission Limits."

(L) WNCRAQA CODE 4.0530(u) - USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

(1) **Use of Projected Actual Emissions** [WNCRAQA Code 4.0530(u)]
Pursuant to WNCRAQA Code 4.0530(u), the Permittee relied on the use of projected actual emissions to demonstrate that the replacement of the economizer inlet header, upper and lower tube bundles, and intermediate header at the reheat bypass wall in Unit 1 Boiler would not result in a significant emissions increase. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, recordkeeping, and reporting requirements in Sections 2.1(K)(2) through (4) below.

(2) **Testing** [WNCRAQA Code 4.2601]
If emissions testing is required, the testing shall be performed in accordance General Condition JJ.

(3) **Recordkeeping** [WNCRAQA Code 4.0530(u)]
The Permittee shall maintain records of actual emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide, volatile organic compounds, particulate matter (PM), particulate matter having a nominal aerodynamic diameter of 10 micrometers or less (PM_{10}), particulate matter having a nominal aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), sulfuric acid (H_2SO_4), and greenhouse gases (GHG) in tons per year on a calendar year basis for each of the five years following the resumption of regular operations after the replacements described in Section 2.1(K)(1) are made (but not including the initial shakedown period, not to exceed 180 days).

(4) **Reporting** [WNCRAQA Code 4.0530(u)]
The results of any stack test required in Section 2.1(K)(2) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. All instances of deviations from the requirements of this permit must be clearly identified. The Permittee shall submit a report of the emissions of all pollutants listed in Section 2.1(K)(3) to the Director within 60 days after the end of each calendar year during which the records in Section 2.1(K)(3) must be

generated.

2.2 - Emission Source ID Unit 3 IC Turbine & Unit 4 IC Turbine

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Sulfur dioxide	40 tons SO_2 per consecutive 12-month period; 0.05 percent by weight sulfur content of No. 2 fuel oil;	WNCRAQA Code 4.0530
	0.8 percent by weight sulfur content of all fuels	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart GG)
Particulate matter	25 tons PM per consecutive 12-month period; 15 tons PM_{10} per consecutive 12-month period;	WNCRAQA Code 4.0530
Nitrogen oxides	0.0103 percent (103 ppm) by volume at 15 percent oxygen and on a dry basis for natural gas combustion; 0.0101 percent (101 ppm) by volume at 15 percent oxygen and on a dry basis for No. 2 fuel oil combustion	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart GG)
	13,725 tons NO_X per consecutive 12-month period	WNCRAQA Code 4.0530
	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
Visible emissions	20 percent opacity	WNCRAQA Code 4.0521

(A) **WNCRAQA CODE 4.0530 - PREVENTION OF SIGNIFICANT DETERIORATION (SULFUR DIOXIDE AND PARTICULATE MATTER REQUIREMENTS)**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0530(g), 17.0317(a)(1), & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 4.0530(g) for major sources and major modifications, the following limitations shall apply:

(a) Both sources shall emit no more than 40 tons of sulfur dioxide (SO_2) per consecutive 12-month period;

(b) The No. 2 fuel oil combusted in both sources shall not exceed 0.05 percent by weight sulfur content; and

(c) Both sources shall emit no more than 25 tons of particulate matter (PM) per consecutive 12-month period.

(d) Both sources shall emit no more than 15 tons of particulate matter having a nominal aerodynamic diameter of 10 micrometers or less (PM_{10}) per consecutive 12-month period.

(2) **Testing** [WNCRAQA Code 4.2600]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2600 and General Condition JJ. If the results of this test are above the

limit given in Section 2.2(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(3) **Monitoring** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
To assure compliance with the limitations given in Section 2.2(A)(1) above, the Permittee shall monitor the following:

(a) The hourly fuel-specific heat input measured in accordance with 40 CFR Part 75;

(b) The sulfur content of No. 2 fuel oil combusted in each combustion turbine as specified in §60.334(i) of 40 CFR Part 60, using the test methods and procedures in §60.335(b)(10) and (11);

(c) The calculated monthly SO_2, PM and PM_{10} emissions based on the hourly fuel-specific heat input monitored per Section 2.2(A)(3)(a), the fuel sulfur content monitored per Section 2.2(A)(3)(b), and the PM and PM_{10} emission factors established by the May 6-9, 2008 emissions testing; and

(d) The annual SO_2, PM and PM_{10} emissions for each consecutive 12-month period.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
Records (written or electronic format) of the above monitoring shall be maintained onsite and made available to an authorized WNCRAQA representative upon request. The records shall include the following:

(a) The date and time of the required monitoring; and

(b) The input parameters and results of the required monitoring noting whether or not noncompliant conditions were observed.

(5) **Reporting** [WNCRAQA Code 17.0508(f)]
The Permittee shall submit a summary report of monitoring and recordkeeping activities, including the total SO_2, PM and PM_{10} emissions for each month and each consecutive 12-month period in the reporting period, postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(B) WNCRAQA CODE 4.0524 - NEW SOURCE PERFORMANCE STANDARDS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0524(a) & 17.0508(b)]
As specified in §60.332(a)(1) of 40 CFR Part 60, emissions of nitrogen oxides from each source shall not exceed 0.0103 percent (103 ppm) by volume at 15 percent oxygen and on a dry basis for natural gas combustion and 0.0101 percent (101 ppm) by volume at 15 percent oxygen and on a dry basis for No. 2 fuel oil combustion. As specified in §60.333(b), fuel combusted in each source shall not contain sulfur in excess of 0.8 percent by weight.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0524(a) and 17.0508(f)]
To assure compliance with the limitations given in Section 2.2(B)(1) above, the Permittee shall:

(a) Monitor sulfur content of the No. 2 fuel oil being combusted in each combustion turbine according to §60.334(h) and using the test methods and procedures in §60.334(h)(1) and §60.335 (b)(10-11); and

(b) As required by §60.334(a), using the procedures in §60.335, for each combustion turbine, install and operate a continuous monitoring system to monitor and record fuel consumption and the ratio of water-to-fuel being combusted. The monitoring device shall be calibrated and maintained in accordance with the procedures in §60.334(g).

(3) **Reporting** [WNCRAQA Code 4.0524(a) & 17.0508(f)]
The Permittee shall conduct reporting according to the following:

(a) For the purpose of reports required under §60.7(c), periods of excess emissions for sulfur dioxide shall be reported for any daily period during which the sulfur content of the fuel being combusted exceeds 0.05 percent by weight based on a 12-month rolling average;

(b) For the purpose of reports required under §60.7(c), periods of excess emissions for nitrogen oxides shall be reported for any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with §60.332 by the performance test required in §60.8; and

(c) The Permittee shall submit in writing the sulfur content and of the No. 2 fuel oil combusted in the combustion turbines by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

All instances of deviations from the requirements of this permit must be clearly identified.

(C) WNCRAQA CODE 4.0530 - PREVENTION OF SIGNIFICANT DETERIORATION (NITROGEN OXIDES REQUIREMENTS)

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0530(g), 17.0317(a)(1), & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 4.0530(g) for major sources and major modifications, both sources, in combination with Unit 1 Boiler and Unit 2 Boiler, shall emit no more than 13,725 tons of nitrogen oxides per consecutive 12-month period.

(2) **Testing** [WNCRAQA Code 4.2612]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2612 and General Condition JJ. If the results of this test are above the limit given in Section 2.2(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
To assure compliance with the limitation given in Section 2.2(C)(1) above, the Permittee shall determine nitrogen oxide emissions in pounds per hour using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the nitrogen oxides emission limitation shall be determined monthly by summing hourly CEMS values over a consecutive 12-month period. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any consecutive 12-month sum exceeds the limitation given in Section 2.2(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(4) **Reporting** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding three-month period

between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(D) **WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0521(d) & 17.0508(b)]
Visible emissions from these sources shall not exceed 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

(2) **Testing** [WNCRAQA Code 4.2610]
If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in Section 2.2(D)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521.

(3) **Monitoring** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.2(D)(1) above, the Permittee shall perform a Method 9 test for 1 hour in accordance with WNCRAQA Code 4.2610 prior to exceeding 1,000 hours of operation while combusting No. 2 fuel oil in each of these sources. This monitoring protocol shall be repeated prior to each 1,000-hour period of operation while combusting No. 2 fuel oil. No monitoring is required while burning natural gas in these sources.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
Records (written or electronic format) of the above monitoring shall be maintained onsite and made available to an authorized WNCRAQA representative upon request. The records shall include the following:

(a) The date and time of each recorded action;

(b) The results of each observation and/or test noting the source with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and

(c) The results of any corrective actions performed.

(5) **Reporting** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The permittee shall submit the results of the Method 9 test within 30 days of completion of the test. All instances of deviations from the requirements of this permit must be clearly identified.

2.3 - Emission Source ID Limestone Crusher, Limestone Conveyor 1, Limestone Conveyor 2, Limestone Conveyor 3, Limestone Bin 1, & Limestone Bin 2

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Particulate matter	0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot)	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart OOO)

Regulated Pollutant	Limits / Standards	Applicable Regulation
	Local-enforceable only: As defined in specific conditions	WNCRAQA Code 4.0540
Visible emissions	7 percent opacity	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart OOO)

(A) **WNCRAQA CODE 4.0524 - NEW SOURCE PERFORMANCE STANDARDS**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0524(a) & 17.0508(b)]
As specified in §60.672(a) of 40 CFR Part 60, emissions of particulate matter from these sources shall not exceed 0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot) and visible emissions from these sources shall not exceed 7 percent opacity when averaged over a six-minute period.

(2) **Testing** [WNCRAQA Code 4.0524(a)]
Within 60 days after achieving the maximum production rate at which these sources will be operated, but not later than 180 days after initial startup of these sources, an initial performance test shall be conducted. Testing shall be performed in accordance with §60.675. If the results of this testing are above the limits given in Section 2.4(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0524.

(3) **Recordkeeping/Reporting** [WNCRAQA Code 4.0524(a) & 17.0508(f)]
The Permittee shall comply with the recordkeeping and reporting requirements of this standard as specified in §60.676(f), (h), and (i). All instances of deviations from the requirements of this permit must be clearly identified.

(B) **WNCRAQA CODE 4.0540 - PARTICULATES FROM FUGITIVE NON-PROCESS DUST EMISSION SOURCES**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0540 & 17.0508(b)]
The Permittee shall not cause, allow, or permit particulate matter to become airborne in the ambient air as a result of storage, transportation, or handling of materials associated with non-process crushed stone operations without taking reasonable precautions for the prevention of such particulate matter from becoming airborne.

(2) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 17.0508(f)]
No monitoring/recordkeeping/reporting is required for particulate matter emissions from fugitive sources.

2.4 - Emission Source ID Sorbent 1, Sorbent 2

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Particulate matter	$E = 4.10(P)^{0.67}$, where E = allowable emission rate in pounds per hour and P = process weight rate in tons per hour	WNCRAQA Code 4.0515
Visible emissions	20 percent opacity	WNCRAQA Code 4.0521

(A) WNCRAQA CODE 4.0515 - PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0515 & 17.0508(b)]
Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour.

(2) **Testing** [WNCRAQA Code 4.2609]
No testing is required at this time; however, the WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with the WNCRAQA Code 4.2609 and General Condition JJ. If the results of this test are above the limit given in Section 2.3(A)(1) above, the Permittee shall be deemed in noncompliance with the WNCRAQA Code 4.0515.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 17.0508(f)]
(a) Particulate matter emissions from these sources shall be controlled by the dust collector. To ensure that optimum control efficiency is maintained, the Permittee shall perform inspections and maintenance as recommended by the manufacturer implemented in the plant's Work Management System. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement must include the following:

(i) An annual internal inspection of the dust collector's structural integrity; and

(ii) A monthly visual inspection of the system ductwork, and material collection unit for leaks.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0515 if the ductwork and dust collector are not inspected and maintained.

(b) The results of inspection and maintenance shall be maintained in a log book (written or electronic form) on site and made available to an authorized representative upon request. The log book shall record the following:

(i) The date and time of actions recorded;

(ii) The results of each inspection;

(iii) The results of any maintenance performed on the dust collector; and:

(iv) Any variance from manufacturer's recommendations, and corrections made.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0515 if these records are not maintained.

(4) **Reporting** [WNCRAQA Code 17.0508(f)
(a) The Permittee shall submit the results of any maintenance performed on the dust collector within 30 days of a written request by the WNCRAQA.

(b) The Permittee shall submit a summary report of monitoring and recordkeeping activities by January 30 and July 30 of each calendar year for the preceding six-month period. All instances of deviations from the requirements of this permit must be clearly identified.

(B) **WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0521 & 17.0508(b)]
Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

(2) **Testing** [WNCRAQA Code 4.2610]
No testing is required at this time; however, the WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with the WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in Section 2.4(A)(1) above, the Permittee shall be deemed in noncompliance with the WNCRAQA Code 4.0521.

(3) **Monitoring** [WNCRAQA Code 17.0508(f)]
To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following start-up of the sources. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) immediately shutdown the source and repair the malfunction, (b) be deemed to be in noncompliance with WNCRAQA Code 4.0521 or (c) demonstrate that the percent opacity from the emission points of the emission sources in accordance with WNCRAQA Code 4.2601 for 30 minutes is below the limit given in Section 2.1 2.4(B)(1) above. If the demonstration in (c) above cannot be made, the Permittee shall be deemed to be in noncompliance with WNCRAQA Code 4.0521.

(4) **Recordkeeping** [WNCRAQA Code 17.0508(f)]
The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

(a) The date and time of each recorded action;

(b) The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and

(c) The results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521 if these records are not maintained.

(5) **Reporting** [WNCRAQA Code 17.0508(f)
The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.5 - Emission Source ID Emergency Generator 1, Fire Pump Engine 1

(A) WNCRAQA CODE 4.1111 - MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT - 40 CFR PART 63 SUBPART ZZZZ)

(1) **Compliance Date** [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6595(a)(1)]
These sources must be in compliance with all applicable requirements of 40 CFR Part Subpart ZZZZ - Reciprocating Internal Combustion Engines (RICE) by May 3, 2013.

(2) **Emission and Operating Limitations** [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6602]
The Permittee must perform the following work practice requirements:

(a) Change oil and filter every 500 hours of operation or annually, whichever comes first;

(b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and

(c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the above schedule, or if performing the work practice on the above schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement. Sources can petition the EPA Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

(3) **General Requirements** [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6625(e)]
(a) The Permittee must be in compliance with the applicable emission limitations and operating limitations at all times. (Note: These sources do not have emissions limitation.)

(b) At all times, the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved.

(4) **Monitoring, Installation, Collection, Operation, and Maintenance Requirements** [WNCRAQA Code 4.1111 & 17.0508(f) & 40 CFR 63. 6625]
(a) Per §63.6625(e), the Permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions, or the Permittee shall develop its own maintenance plan, which must provide, to the extent practicable, for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(b) Per §63.6625(f), the Permittee must install a non-resettable hour meter if one is not already installed.

(c) Per §63.6625(h), the Permittee shall minimize the engine's time spent at idle during startup time and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time, the non-startup emission limitations (if any) apply.

(5) **Demonstrating Compliance with Emission and Operating Limitations** [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6640]

(a) Per §63.6640(a), the Permittee must demonstrate continuous compliance with each emission limitation and operating limitation according to Condition 2.4(4)(a), above.

(b) Per §63.6640(b) the Permittee must report each instance in which each applicable emission limitation or operating limitation was not met. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in § 63.6650.

(c) Per §63.6640(e) the Permittee must also report each instance in which the applicable requirements in the General Provisions, as indicated in §63.6665 and shown in Table 8 to this subpart, were not met.

(d) Per §63.6640(f) the Permittee must operate the engine according to the conditions described below:

(i) Any operation other than emergency operation, maintenance and testing, and operation in nonemergency situations for 50 hours per year, as permitted in this section, is prohibited;

(ii) There is no time limit on the use of emergency stationary RICE in emergency situations.

(iii) The emergency stationary RICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the EPA Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iv) The emergency stationary RICE may be operated up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for nonemergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.

(6) **Recordkeeping** [WNCRAQA Code 4.1111 & 17.0508(f) & 40 CFR 63. 6655 & .6660]

(a) The Permittee shall keep records that show that management practices that are required are being met. These records must include, at a minimum:

(i) Oil and filter change dates and corresponding hour on the hour meter;

(ii) Inspection and replacement dates for air cleaners, hoses, and belts; and

(iii) Records of other emission-related repairs and maintenance performed.

(b) Each record must be kept readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

SECTION 3 - CLEAN AIR INTERSTATE RULE (CAIR) PERMIT REQUIREMENTS

(A) WNCRAQA CODE 4. 2403: NITROGEN OXIDE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.2403]
The total nitrogen oxide (NO_X) emissions from Duke Energy Progress, Inc.'s Asheville Steam Electric Plant shall not exceed, except as provided in WNCRAQA Code 4.2408:

(a) 1,789 tons annually for 2015 and later.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR NO_X sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2403(e)]
The owner or operator of any unit or source covered under WNCRAQA Code 4.2403 shall be subject to the provisions of 40 CFR 96.106(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2403 & 4.2407(a)(1)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.106(b) and (e), and 40 CFR 96 Subpart HH for each CAIR NO_X unit. The emissions of nitrogen oxides of a CAIR NO_X source shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HH shall be used to determine compliance by each CAIR NO_X source with its emissions limitation according to 40 CFR 96.106(c) including 96.106(c)(5) and (6). The provisions of 40 CFR 96.106(d) shall be used for excess emissions.

(B) WNCRAQA CODE 4.2405 - NITROGEN OXIDE EMISSIONS DURING OZONE SEASON

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.2405(a)(1) & (b)]
Ozone season NO_X emissions from Duke Energy Progress, Inc.'s Asheville Steam Electric Plant shall not exceed, except as provided in WNCRAQA Code 4.2408:

(a) 765 tons during the ozone season for 2015 and later.

The ozone season shall be defined as the period of time extending from May 1 to September 30 of each calendar year.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR NO_X Ozone Season sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2405(g)]
The owner or operator of any unit or source covered under WNCRAQA Code 4.2405 shall be

subject to the provisions of 40 CFR 96.306(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2405 & 4.2407(a)(3)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.306(b) and (e), and 40 CFR 96 Subpart HHHH for each CAIR Ozone Season NO_X unit. The nitrogen oxide ozone season emissions of a CAIR NO_X Ozone Season source shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NO_X Ozone Season source with its emissions limitation according to 40 CFR 96.306(c) including 96.306(c)(5) and (6). The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

(C) **WNCRAQA CODE 4.2404 - SULFUR DIOXIDE EMISSIONS**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.2404(b)]
The annual allocation of sulfur dioxide allowances shall be determined by EPA. The allocations for CAIR SO_2 units are listed in the table below (these allocations are from 40 CFR 73.10):
(a) Unit 1 - 6,633 for 2010 and later; and

(b) Unit 2 - 5,271 for 2010 and later.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR SO_2 sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2404(f)]
The owner or operator of any unit or source covered under 15A NCAC 2D .2404 shall be subject to the provisions of 40 CFR 96.206(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2404 & 4.2407(a)(2)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.206(b) and (e), and 40 CFR 96 Subpart HHH for each CAIR SO_2 unit. The emissions of sulfur dioxides of a source described in Section 3(C)(1) above shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHH shall be used to determine compliance by each CAIR SO_2 source with its emissions limitation according to 40 CFR 96.206(c) including 96.206(c)(5) and (6). The provisions of 40 CFR 96.206(d) shall be used for excess emissions.

(D) **CAIR PERMIT APPLICATION**
The permit application submitted for this facility, as approved by WNCRAQA, is part of this permit. The owner and operator of these CAIR NO_X and SO_2 sources must comply with the standard requirements and special provisions set forth in the following attached application:

CAIR Permit Application dated June 23, 2014.

SECTION 4 - ACID RAIN PROGRAM REQUIREMENTS

ORIS code: **2706**
Effective: **January 1, 2015 through December 31, 2019**

(A) **Statement of Basis**
Statutory and Regulatory Authorities: In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina, as amended, and Titles IV and V of the Clean Air Act, WNCRAQA issues this permit pursuant to WNCRAQA Code 17.0400 and 17.0500, and other applicable laws.

(B) **SO_2 Allowance Allocations and NO_X Reduction Requirements for Each Affected Unit**
The following table provides a summary of the Title IV applicable requirements for the emission source(s) at this facility:

Emission Source ID	Reduction Requirement	2015	2016	2017	2018	2019
Unit 1 Boiler	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	6,633*	6,633*	6,633*	6,633*	6,633*
Unit 1 Boiler	NO_X Limit	WNCRAQA approves a standard NO_X compliance plan for this unit. The compliance plan is effective for calendar year 2015 through calendar year 2019. Under the compliance plan, this unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.7(a)(2) of 0.46 lb/MMBtu for dry bottom wall-fired boilers. In addition to the described NO_X compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.				
Unit 2 Boiler	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	5,271*	5,271*	5,271*	5,271*	5,271*
Unit 2 Boiler	NO_X Limit	WNCRAQA approves a standard NO_X compliance plan for this unit. The compliance plan is effective for calendar year 2015 through calendar year 2019. Under the compliance plan, this unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.7(a)(2) of 0.46 lb/MMBtu for dry bottom wall-fired boilers. In addition to the described NO_X compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.				
Unit 3 IC Turbine and Unit 4 IC Turbine	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	NA**	NA**	NA**	NA**	NA**
	NO_X Limit	NA***				

*The number of allowances allocated to Phase II-affected units by U.S. EPA may change under a future revision to 40 CFR Part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

**SO_2 allowances are not allocated by U.S. EPA for new units under 40 CFR Part 72.

***Does not apply for gas or oil-fired units.

(C) **Comments, Notes, and Justifications**

None.

(D) **Permit Applications (Attached)**

The permit applications submitted for this facility, as approved by WNCRAQA, are part of this permit. The owners and operators of these Phase II acid rain sources must comply with the standard requirements and special provisions set forth in the following attached applications:

Acid Rain Permit Application dated June 23, 2014; and
Acid Rain NO_X Compliance Plan dated March 23, 2015.

SECTION 5 - GENERAL CONDITIONS AND LIMITATIONS

This section describes terms and conditions applicable to this Title V facility.

(A) **General Provisions** [NCGS 143-215 and WNCRAQA Code 17.0508(i)(16)]

(1) Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in WNCRAQA Code Chapters 4 and 17.

(2) The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by WNCRAQA.

(3) This permit is not a waiver of or approval of any other permits that may be required for other aspects of the facility which are not addressed in this permit.

(4) This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of local laws or rules, unless specifically authorized by an order from WNCRAQA.

(5) Except as identified as local-only requirements in this permit, all terms and conditions contained herein shall be enforceable by WNCRAQA, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.

(6) Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by WNCRAQA, unless the source is exempted by rule. WNCRAQA may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

(B) **Permit Availability** [WNCRAQA Code 17.0507(k) and 17.0508 (i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of WNCRAQA upon request.

(C) **Severability Clause** [WNCRAQA Code 17.0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

(D) **Submissions** [WNCRAQA Code 17.0507(e) and 17.0508(i)(16)]
Except as otherwise specified herein, one copy of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to WNCRAQA.

(E) **Duty to Comply** [WNCRAQA Code 17.0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as local-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

(F) **Circumvention** - LOCAL ENFORCEABLE ONLY
The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

(G) **Permit Modifications**

(1) Administrative Permit Amendments [WNCRAQA Code 17.0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with WNCRAQA Code 17.0514.

(2) Transfer of Ownership or Operation [WNCRAQA Code 17.0524 and 17.0505]
The Permittee shall submit an application for an ownership change in accordance with WNCRAQA Code 17.0524 and 17.0505.

(3) Minor Permit Modifications [WNCRAQA Code 17.0515]
The Permittee shall submit an application for a minor permit modification in accordance with WNCRAQA Code 17.0515.

(4) Significant Permit Modifications [WNCRAQA Code 17.0516]
The Permittee shall submit an application for a significant permit modification in accordance with WNCRAQA Code 17.0516.

(5) Reopening for Cause [WNCRAQA Code 17.0517]
The Permittee shall submit an application for reopening for cause in accordance with WNCRAQA Code 17.0517.

(H) **Changes Not Requiring Permit Modifications**

(1) Reporting Requirements
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the WNCRAQA:

(a) Changes in the information submitted in the application;

(b) Changes that modify equipment or processes; or

(c) Changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the WNCRAQA to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

(2) Section 502(b)(10) Changes [WNCRAQA Code 17.0523(a)]

(a) "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

(b) The Permittee may make Section 502(b)(10) changes without having the permit revised if:

(i) The changes are not a modification under Title I of the Federal Clean Air Act;

(ii) The changes do not cause the allowable emissions under the permit to be exceeded;

(iii) The Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and

(iv) The Permittee shall attach the notice to the relevant permit.

(c) The written notification shall include:

(i) A description of the change;

(ii) The date on which the change will occur;

(iii) Any change in emissions; and

(iv) Any permit term or condition that is no longer applicable as a result of the change.

(d) Section 502(b)(10) changes shall be made in the permit the next time the permit is revised or renewed, whichever comes first.

(3) Off Permit Changes [WNCRAQA Code 17.0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:

(a) The change affects only insignificant activities and the activities remain insignificant after the change; or

(b) The change is not covered under any applicable requirement.

(4) Emissions Trading [WNCRAQA Code 17.0523(c)]
To the extent that emissions trading is allowed under WNCRAQA Code Chapter 4, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to WNCRAQA Code 17.0523(c).

(I.A) **Reporting Requirements for Excess Emissions and Permit Deviations** [WNCRAQA Code 4.0535(f) and 17.0508(f)(2)]

"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Chapter 4; or by a permit condition; or that exceeds an emission limit established in a permit issued under WNCRAQA Code

17.0700. (*Note: Definitions of excess emissions under 4.1110 and 4.1111 shall apply where defined by rule.)*

"Deviations" - for the purpose of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions, as well as excess emissions as defined above lasting less than four hours.

Excess Emissions

(1) If a source is required to report excess emissions under NSPS (WNCRAQA Code 4.0524), NESHAPs (WNCRAQA Code 4.1110 or 4.1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.

(2) If the source is not subject to NSPS (WNCRAQA Code 4.0524), NESHAPs (WNCRAQA Code 4.1110 or 4.1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with WNCRAQA Code 4.0535 as follows:

(a) Pursuant to WNCRAQA Code 4.0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:

(i) Notify the Director of any such occurrence by 9:00 a.m. Eastern Time of the Agency's next business day of becoming aware of the occurrence and provide:

- Name and location of the facility;
- Nature and cause of the malfunction or breakdown;
- Time when the malfunction or breakdown is first observed;
- Expected duration; and
- Estimated rate of emissions;

(ii) Notify the Director immediately when corrective measures have been accomplished; and

(iii) Submit to the Director within 15 days a written report as described in WNCRAQA Code 4.0535(f)(3);

Permit Deviations

(3) Pursuant to WNCRAQA Code 17.0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:

(a) Notify the Director of all other deviations from permit requirements not covered under WNCRAQA Code 4.0535 quarterly. A written report to the Director shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

(I.B) **Other Requirements under WNCRAQA Code 4.0535**
The Permittee shall comply with all other applicable requirements contained in WNCRAQA Code 4.0535, including 4.0535(c), as follows:

(1) Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess emissions are a result of a malfunction. The Director shall consider,

along with any other pertinent information, the criteria contained in WNCRAQA Code 4.0535(c)(1) through (7).

(2) WNCRAQA Code 4.0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

(J) **Emergency Provisions** [40 CFR 70.6(g)]
The Permittee shall be subject to the following provisions with respect to emergencies:

(1) An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

(2) An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in (3) below are met.

(3) The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:

(a) An emergency occurred and the Permittee can identify the cause(s) of the emergency;

(b) The permitted facility was at the time being properly operated;

(c) During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and

(d) The Permittee submitted notice of the emergency to WNCRAQA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.

(4) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(5) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

(K) **Permit Renewal** [WNCRAQA Code 17.0508(e) and 17.0513(b)]
This permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with WNCRAQA Code 17.0512(b)(1), this WNCRAQA Code 17.0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under WNCRAQA Code 17.0400 terminates the facility's right to operate unless a complete WNCRAQA Code 17.0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 2Q .0400 requirements. In either of these events, all terms and conditions of this permit shall remain in effect until the renewal permit has been issued or denied.

(L) **Need to Halt or Reduce Activity Not a Defense** [WNCRAQA Code 17.0508(i)(4)]
It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(M) **Duty to Provide Information (submittal of information)** [WNCRAQA Code 17.0508(i)(9)]

(1) The Permittee shall furnish to WNCRAQA, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.

(2) The Permittee shall furnish WNCRAQA copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

(N) **Duty to Supplement** [WNCRAQA Code 17.0507(f)]
The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to WNCRAQA. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

(O) **Retention of Records** [WNCRAQA Code 17.0508(f) and 17.0508(l)]
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to an authorized WNCRAQA representative for inspection upon request.

(P) **Compliance Certification** [WNCRAQA Code 17.0508(n)]
The Permittee shall submit to WNCRAQA and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street, Atlanta, GA 30303) postmarked on or before **January 30** a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

(1) The identification of each term or condition of the permit that is the basis of the certification;

(2) The compliance status (with the terms and conditions of the permit for the period covered by the certification);

(3) Whether compliance was continuous or intermittent; and

(4) The method(s) used for determining the compliance status of the source during the certification period.

(Q) **Certification by Responsible Official** [WNCRAQA Code 17.0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(R) **Permit Shield for Applicable Requirements** [WNCRAQA Code 17.0512]

(1) Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.

(2) A permit shield shall not alter or affect:

(a) The power of the Director under WNCRAQA Code 1.0102(a)(12), or EPA under Section 303 of the Federal Clean Air Act;

(b) The liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;

(c) The applicable requirements under Title IV; or

(d) The ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.

(3) A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under WNCRAQA Code 17.0523.

(4) A permit shield does not extend to minor permit modifications made under WNCRAQA Code 17.0515.

(S) **Termination, Modification, and Revocation of the Permit** [WNCRAQA Code 17.0519]
The Director may terminate, modify, or revoke and reissue this permit if:

(1) The information contained in the application or presented in support thereof is determined to be incorrect;

(2) The conditions under which the permit or permit renewal was granted have changed;

(3) Violations of conditions contained in the permit have occurred;

(4) The EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or

(5) The Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

(T) **Insignificant Activities** [WNCRAQA Code 17.0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized WNCRAQA representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

(U) **Property Rights** [WNCRAQA Code 17.0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

(V) **Inspection and Entry** [WNCRAQA Code 17.0508(l) and 1.0104(d)]

(1) Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow WNCRAQA, or an authorized representative, to perform the following:

(a) Enter the Permittee's premises where the permitted facility is located or emissions-related

activity is conducted, or where records are kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

(c) Inspect, at reasonable times and using reasonable safety practices, any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) Sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.

(2) No person shall refuse entry or access to any authorized representative of WNCRAQA who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his or her official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

(W) **Annual Fee Payment** [WNCRAQA Code 17.0508(i)(10)]

(1) The Permittee shall pay all fees in accordance with WNCRAQA Code 17.0200.

(2) Payment of fees may be by check or money order made payable to the Western North Carolina Regional Air Quality Agency. Annual permit fee payments shall refer to the permit number.

(3) If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under WNCRAQA Code 17.0519.

(X) **Annual Emission Inventory Requirements** [WNCRAQA Code 17.0207]
The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in WNCRAQA Code 17.0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such forms as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

(Y) **Confidential Information** [WNCRAQA Code 17.0107 and 17.0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to WNCRAQA Code 17.0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with WNCRAQA Code 17.0107.

(Z) **Construction and Operation Permits** [WNCRAQA Code 17.0100 and 17.0300]
A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source that is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of WNCRAQA Code 17.0100 and 17.0300.

(AA) **Standard Application Form and Required Information** [WNCRAQA Code 17.0505 and 17.0507]
The Permittee shall submit applications and required information in accordance with the provisions of WNCRAQA Code 17.0505 and 17.0507.

(BB) **Financial Responsibility and Compliance History** [WNCRAQA Code 17.0507(d)(4)]
WNCRAQA may require an applicant to submit a statement of financial qualifications and/or a

statement of substantial compliance history.

(CC) **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [WNCRAQA Code 17.0501(e)]

(1) If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82, Subpart A, Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82, Subpart F.

(2) The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device, except as provided in 40 CFR Part 82, Subpart F.

(3) The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

(DD) **Prevention of Accidental Releases - Section 112(r)** [WNCRAQA Code 17.0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

(EE) **Prevention of Accidental Releases "General Duty" Clause - Section 112(r)(1)** - FEDERALLY ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

(FF) **Title IV Allowances** [WNCRAQA Code 17.0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

(GG) **Air Pollution Emergency Episode** [WNCRAQA Code 4.0300]
Should the Director declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in WNCRAQA Code 4.0300.

(HH) **Registration of Air Pollution Sources** [WNCRAQA Code 4.0202]
The Director may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with WNCRAQA Code 4.0202(b).

(II) **Ambient Air Quality Standards** [WNCRAQA Code 4.0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in WNCRAQA Code 4.0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

(JJ) **General Emissions Testing and Reporting Requirements** [WNCRAQA Code 17.0508(i)(16)] Emission compliance testing shall be by the procedures of WNCRAQA Code 4 .2600, except as may be otherwise required in WNCRAQA Code 4.0524, 4.0912, 4.1110, 4.1111, or 4.1415. If emissions testing is required by this permit or WNCRAQA or if the Permittee submits emissions testing to WNCRAQA to demonstrate compliance, the Permittee shall perform such testing in accordance with WNCRAQA Code 4.2600 and follow the procedures outlined below:

(1) The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.

(2) Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.

(3) The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.

(4) One copy of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.

(a) The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:

(i) Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.

(ii) Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.

(iii) Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.

(b) The Director may authorize the WNCRAQA to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the WNCRAQA using the appropriate testing procedures described in WNCRAQA Code 4.2600 has precedence over all other tests.

(KK) **Reopening for Cause** [WNCRAQA Code 17.0517]

(1) A permit shall be reopened and revised under the following circumstances:

(a) Additional applicable requirements become applicable to a facility with remaining permit term of three or more years;

(b) Additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;

(c) The Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or

(d) The Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(2) Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to WNCRAQA Code 17.0513(c).

(3) Except for the local enforceable only portion of the permit, the procedures set out in WNCRAQA Code 17.0507, 17.0521, or 17.0522 shall be followed to reissue the permit. If the local enforceable only portion of the permit is reopened, the procedures in WNCRAQA Code 17.0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.

(4) The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.

(5) Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

(LL) **Reporting Requirements for Non-Operating Equipment** [WNCRAQA Code 17.0508(i)(16)]
The Permittee shall maintain a record of operation for permitted equipment, noting whenever the equipment is taken from and placed into operation. During operation, the monitoring, recordkeeping, and reporting requirements, as prescribed by the permit, shall be implemented within the monitoring period.

(MM) **Fugitive Dust Control Requirement** [WNCRAQA Code 4.0540] - LOCAL ENFORCEABLE ONLY
As required by WNCRAQA Code 4.0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in WNCRAQA Code 4.0540(g). "Fugitive dust emissions" means particulate matter that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas, stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

(NN) **Specific Permit Modifications** [WNCRAQA Code 17.0501 and 17.0523]

(1) For modifications made pursuant to WNCRAQA Code 17.0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.

(2) For modifications made pursuant to WNCRAQA Code 17.0501(d)(2), the Permittee shall not

begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of WNCRAQA Code 17.0500 (except for WNCRAQA Code 17.0504) is obtained.

(3) For modifications made pursuant to 502(b)(10), in accordance with WNCRAQA Code 17.0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA Region 4 - Air Planning Branch, 61 Forsyth St., Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:

(a) A description of the change at the facility;

(b) The date on which the change will occur;

(c) Any change in emissions; and

(d) Any permit term or condition that is no longer applicable as a result of the change.

In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements

(OO) **Third Party Participation and EPA Review** [WNCRAQA Code 17.0521, 17.0522 and 17.0525(7)]
For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 2Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Insignificant Activities Under WNCRAQA Code 17.0503(8)

Emission Source Description	Control Device Description
Two (2) 1,804,000-gallon capacity aboveground No. 2 fuel oil storage tanks	NA
Two (2) 15,000-gallon capacity urea storage tanks	NA
One (1) 90,000-gallon capacity urea solution feed tank	NA
One (1) 4.00 million BTU per hour natural gas-fired gas heater	NA
One (1) 200-gallon capacity No. 2 fuel oil storage tank	NA
One (1) 280-gallon capacity No. 2 fuel oil storage tank	NA
One (1) 25,000-gallon capacity No. 2 fuel oil storage tank	NA
Two (2) 6,200-gallon capacity lube oil tanks	NA
Two (2) 250-gallon capacity false start drain tanks	NA
One (1) 1,000-gallon capacity kerosene storage tank	NA
One (1) 1,000-gallon capacity gasoline storage tank	NA
One (1) 8,000-gallon capacity batch lube oil tank	NA
One (1) 9,200-gallon capacity batch lube oil tank	NA
One (1) 4,455-gallon capacity turbine lube oil tank with demister	NA
One (1) 3,000-gallon capacity turbine lube oil tank with demister	NA
One (1) 8,000-gallon capacity transformer oil tank	NA
One (1) 500-gallon capacity mobile diesel fuel storage tank	NA
Coal handling / coal pile / ash handling and ash pond	NA
One (1) 5,000-gallon sulfuric acid tank	NA
Gypsum handling system	NA
Limestone pile	NA

ATTACHMENT

List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
BTU	British Thermal Unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CI	Compression Ignition
COMS	Continuous Opacity Monitoring System
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NCGS	North Carolina General Statutes
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standard
PM	Particulate Matter
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
$PM_{2.5}$	Particulate Matter with Nominal Aerodynamic Diameter of 2.5 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RICE	Reciprocating Internal Combustion Engine
SI	Spark Ignition
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TPY	Tons Per Year
VOC	Volatile Organic Compound
WNCRAQA	Western North Carolina Regional Air Quality Agency

Western North Carolina Regional Air Quality Agency
APPLICATION REVIEW SUMMARY

SECTION A: FACILITY INFORMATION			
COMPANY NAME:	Duke Energy Progress, Inc.		
SITE NAME:	Asheville Steam Electric Plant		
MAILING ADDRESS:	200 CP&L Drive, Arden, NC 28704		
SITE ADDRESS:	200 CP&L Drive, Arden, NC 28704		
GENERAL DESCRIPTION OF BUSINESS:	Electric Generation		
FACILITY CLASSIFICATION:	Title V	SITE STATUS:	Existing

SECTION B: APPLICATION INFORMATION			
DATE OF APPLICATION:	August 19, 2014	APPLICATION TRACKING NO.:	NA
DATE COMPLETE APPLICATION RECEIVED:	August 22, 2014	BOARD MEETING DATE:	May 11, 2015
CONFIDENTIALITY REQUESTED?	No	BOARD AGENDA TYPE:	Renewal
APPLICATION RESULTS:	With this application, Duke Energy Progress is requesting to renew their permit.		
PERMIT NO. ISSUED BY APPLICATION:	11-628-15/May 11, 2015		
PERMIT NO. VOIDED BY APPLICATION:	11-628-10D/May 14, 2013		

SECTION C: REGULATORY INFORMATION	
WNCRAQA REGULATIONS:	4.0515, 4.0516, 4.0519, 4.0521, 4.0524, 4.0530, 4.0535, 4.0536, 4.0540, 4.0606, 4.0608, 4.0612, 4.0614, 4.1111, 4.2400, 4.2500, 17.0402, 17.0500

SECTION D: FACILITY-WIDE EMISSIONS INFORMATION		
POLLUTANTS REVIEWED AS A RESULT OF THIS APPLICATION OR WNCRAQA ACTION:	Actual Emissions (TONS/YR) CY 2013	Potential Emissions (TONS/YR) From Permit Application
CO	146	404
NO_X	874*	5,937*
PM	150*	471
PM_{10}	144*	454
$PM_{2.5}$	132*	442
SO_2	819*	12,760*
VOC	19	61
Greenhouse Gases (GHG), $CO2_e$	1,556,000	4,646,000
All Hazardous Air Pollutants (HAPs)	4.9*	26.8*
List all HAPs >10TPY of potential emissions	None - with permitted emission limits	Potential emissions include operational limits on the combustion turbines. Potential GHG emissions were not in application, so were estimated from actual emissions times the ratio of potential/actual fuel use.

*Emission numbers denoted with an (*) reflect "controlled" emissions (i.e., emissions reduced by a control device).

IN COMPLIANCE WITH EMISSION STANDARDS / RECOMMEND APPROVAL			
Air Quality Specialist:	Betsy Brown /	Date Completed:	
Air Quality Specialist:	James C. Raiford/	Date Reviewed:	
Permitting Program Manager:	Ashley J. Featherstone /	Date Reviewed:	
Director Name:	David A. Brigman /	Date Approved:	

SECTION A DETAILS

FACILITY INFORMATION

[Detailed discussion of any items in Section A]

Background

Duke Energy and Progress Energy merged in 2013 to create the new Duke Energy, the nation's largest utility. The company has approximately 57,500 megawatts of electric generation capacity through a mix of fossil-fuel, nuclear and hydroelectric plants and provides electric service to approximately 7.2 million customers in North Carolina, South Carolina, and Florida in the southeast, as well as Ohio, Kentucky, and Indiana in the Midwest. Duke Energy Progress (DEP), formerly Progress Energy Carolinas (PEC), represents Duke Energy's retail service area in the Carolinas. This service area spans about 34,000 square miles and includes much of the eastern half of North Carolina, the northeastern quadrant of South Carolina, and western North Carolina, including Buncombe County.

The Asheville Steam Electric Plant is one component in DEP's system of electrical generation. In their electrical generating operations, the Asheville Steam Electric Plant operates four permitted combustion sources: two coal-fired boilers and two natural gas / No. 2 fuel oil-fired, simple-cycle combustion turbines. The pollutants of concern result from fuel combustion in the boilers and turbines and include carbon monoxide (CO), nitrogen oxides (NO_X), particulate matter (PM, including PM_{10}, $PM_{2.5}$), sulfur dioxide (SO_2), volatile organic compounds (VOCs), and various hazardous air pollutants (HAPs). In addition to the four permitted combustion sources, DEP operates various other pieces of ancillary equipment, including the following permitted equipment: a limestone handling system, an emergency generator, and an emergency fire pump engine. Insignificant activities include various storage tanks and coal and ash handling and storage.

Unit 1 is a 2,155 million BTU per hour (198 megawatts) Riley Stoker pulverized coal-fired boiler (wall-fired, dry bottom) that began operation May 25, 1964. In addition to coal, No. 2 fuel oil is used for light-off and flame stabilization. The boiler is also permitted to combust recycled oil, used oil and solvents, and waste boiler cleaning solution. A flue gas desulfurization (FGD) system (or scrubber) to control of SO_2 emissions began operation on November 17, 2005. The unit is equipped with low-NO_X burners and, until September 20, 2006, an integrated amine-enhanced fuel lean gas reburn (AEFLGR) system (which burned natural gas) and a urea-based selective noncatalytic reduction (SNCR) system to control NO_X emissions. The facility replaced the AEFLGR/SNCR system with a selective catalytic reduction (SCR) system to increase efficiency in controlling NO_X emissions. The SCR system began operation on May 8, 2007. PM emissions are controlled by a Research Cottrell electrostatic precipitator (ESP). The ESP had been equipped with a sulfur trioxide (SO_3) based flue gas conditioning system for enhanced capture efficiency. As part of the FGD construction process, the facility replaced the ESP and removed the SO_3 based flue gas conditioning system. Unit 1 has recently been equipped with an SO_3 mitigation system, which injects ammonia upstream of the ESP to reduce SO_3 formation by the SCR that can subsequently produce sulfuric acid mist (seen as blue smoke). This system operates, as needed, when coal and meteorological conditions indicate the potential for excessive formation of sulfuric acid mist.

Unit 2 is a 2,102 million BTU per hour (194 megawatts) Babcock & Wilcox pulverized coal-fired boiler (wall-fired, dry bottom) that began operation on May 2, 1971. In addition to coal, No. 2 fuel oil is used for light-off and flame stabilization. The boiler is also permitted to combust recycled oil, and waste boiler cleaning solution. A FGD system for the control of SO_2 emissions began operation on May 15, 2006, and an SCR system to control NO_X emissions began operation on June 14, 2006. The unit is also equipped with low-NO_X burners. PM emissions are controlled by a Research Cottrell ESP, which was rebuilt in 1998. The ESP had been equipped with a SO_3 based flue gas conditioning system for enhanced capture efficiency, but this system was removed in 2005 as part of the SCR and FGD construction process. Similar to Unit 1, Unit 2 is equipped with an SO_3 mitigation system, which began operation on July 18, 2006. The system operates, as needed to mitigate the potential for excessive formation of sulfuric acid mist.

The facility installed a 150-ton per hour limestone handling system, consisting of one limestone crusher, two belt conveyors, and two storage bins, to provide crushed limestone for the Unit 1 and Unit 2 FGDs. The limestone handling system began operation on October 21, 2005. To control PM emissions generated by the crushing and transferring operations, the equipment is enclosed and emissions are routed to individual bagfilters.

Units 3 and 4 are identical 1,929 million BTU per hour (165 megawatts) General Electric natural gas / No. 2 fuel oil-fired simple-cycle internal combustion (IC) turbines that began operation on May 18, 1999 and February 3, 2000, respectively. (Note: The nominal heat input rate when burning No. 2 fuel oil is 1,929.8 million BTU per hour [MMBtu/hr]. The nominal heat input rate when burning natural gas is 1654 MMBtu/hr.) The turbines are utilized as peaking units. Typically, natural gas is combusted during summer months and No. 2 fuel oil is combusted during winter months. The turbines use direct water injection to reduce NO_X emissions. Two 1,804,000 gallon No. 2 fuel oil storage tanks, installed in 1999, supply the turbines.

The facility has been subject to Title V permitting procedures as outlined in WNCRAQA Code 17.0500 and 40 CFR Part 70 due to: 1) potential CO, NO_X, PM, PM_{10}, and SO_2 emission rates greater than 100 tons per year, a combined potential HAP emission rate greater than 25 tons per year, and potential individual HAP emission rates greater than 10 tons per year; 2) applicability of Title IV; and 3) being a source category designated by EPA as subject to the requirements of 40 CFR Part 70. During a previous permit review (for Permit No. 11-628-10), it was discovered that the NO_X, PM_{10}, and SO_2 emission limits, which had been placed in the permit to avoid Prevention of Significant deterioration (PSD) requirements, combined with the use of the FGDs (but not the SCRs) effectively restrict HAP emissions to below major source thresholds. A key contributing factor was the updated hydrogen chloride (HCl) emission factors for coal combustion that were used in the 2008 emissions inventory. The new HCl emission factors, which were based on recent stack tests of Units 1 and 2, are approximately 90% lower than the previous factor, which was based on EPA and EPRI guidance. DEP would be an area source of HAP emissions if the permit were to require the FGDs to operate whenever Units 1 and 2 are operating. However, DEP's permit notes that the FGDs are to be operated on an as-needed basis. Therefore, DEP is still considered a (potential) major source of HAP emissions.

Over the past few years, several key revisions have been incorporated into the permit, as discussed in the Application Review Summaries (permit reviews) for Permit Nos. 11-628-05A and 11-628-10. More recently, a dry sorbent injection system for Units 1 and 2 was added under Permit No. 11-628-10A. A PM continuous emissions monitoring system (CEMS) compliance option for Units 1 and 2 and the use of an alkaline fuel additive for these units was added under Permit No. 11-628-10B. Work on Unit 1 to replace the economizer inlet header, upper and lower tube bundles, and intermediate header at the reheat bypass wall was covered under Permit No. 11-628-10C. The company name was changed from Progress Energy Carolinas to Duke Energy Progress under Permit No. 11-628-10D. The company submitted an air permit application in June 2014, to construct fly ash handling and storage facilities to the plant. This permit request was subsequently withdrawn.

Updates to Permit

The General Conditions have been updated. In addition to updating the general conditions, the following rules and standards were reviewed as part of the renewal process.

Mercury Air Toxics Standards (MATS)
The Asheville Plant's two coal-fired boilers are subject to the provisions of 40 CFR 63, Subpart UUUUU "National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units," also known as the Mercury and Air Toxics Standards (MATS). The regulation was originally proposed on May 3, 2011 and finalized on February 16, 2012. Compliance with the standards is required by April 16, 2015 and all compliance demonstrations must be submitted within 180 days of the compliance date or October 13, 2015.

CAIR, CSAPR
At the time of this permit renewal application, the Clean Air Interstate Rule, CAIR, was still in effect and the permit included a renewal requests for the CAIR and Title IV Acid Rain Program. These documents will be attached to the new permit. The Cross-State Air Pollution Rule became effective in January of 2015. Currently this rule is a Federal Implementation Plan (FIP); however, it has not yet been incorporated into the North Carolina State Implementation Plan (SIP). This renewal will include the requirements of the CAIR and Acid Rain Program which are still a part of the state SIP.

1-Hour Sulfur Dioxide (SO_2) Primary NAAQS
On June 22, 2010, the EPA revised the Primary National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO_2). The new 1-hour standard is 75 parts per billion (calculated as the 99th percentile averaged over three years). Since publishing the standard, the EPA has been working with stakeholders on the implementation process. Part of this process is requiring air agencies to characterize SO_2

emissions for the purposes of implementing the new SO_2 standard, which will allow the EPA to designate which areas will be in nonattainment. The EPA proposed the *Data Requirements Rule for the 1-Hour Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard (NAAQS)* on May 13, 2014. This proposed rule details the requirements for a state agency to provide data to the EPA so the EPA in turn can make final SO_2 NAAQS attainment designations. The proposed rule includes an anticipated timeline for the attainment designation process. The air agency will be required to submit a list of applicable sources located in its jurisdiction to the EPA by January 15, 2016. For each area containing an applicable source, the air agency shall state whether it will characterize air quality through ambient air quality monitoring or through air quality modeling techniques. For areas that are characterized using a modeling analysis, it is expected that modeling will be completed and submitted to the EPA by January 2017, and that final designations for these areas will be completed by December of 2017. For areas that elect to characterize air quality through ambient monitoring, the monitors are to be operational by January 2017. Three years of data will be collected, with the EPA issuing final designations by December of 2020. State attainment plans will be due in August of 2022. A final rule is expected later this year. The Agency, along with the North Carolina Division of Air Quality, will establish any enforceable emission limits as necessary per the process outlined above. Should this facility submit an application for an increase in SO_2 emissions that triggers the PSD regulation (WNCRAQA Code 4.0530), the facility must demonstrate the project will not cause or contribute to a violation of the 1-hour SO_2 standard. Approval for an increase, including enforceable emission limitations, would be handled through the construction permit process. No modeling analysis is required for the 1-hour SO_2 standard at this time.

Mandatory Green House Gas (GHG) Reporting- 40 CFR 98

GHG emission calculations are included in the permit review. The Asheville DEP plant is subject to Subparts A, C, and D of the Mandatory Greenhouse Gas Reporting Rule. The annual GHG report must be submitted by March 31 of each year for the GHG emissions during the previous calendar year. Although the plant is subject to these requirements, the rule does not require that it be included in the TV permit program.

SECTION B DETAILS

APPLICATION INFORMATION

[List all emission sources (permitted and exempt) reviewed as a result of this application, their associated control devices and pollutants. Provide a detailed discussion of any other items in Section B at bottom under "Application Notes."]

EMISSION SOURCE ID	EMISSION SOURCE DESCRIPTION 1. Type, manufacturer, capacity 2. Control device with ID (if any)	POLLUTANT(S) EMITTED	MISCELLANEOUS NOTES
Permitted Sources			
Unit 1 Boiler	One (1) 2,155 million BTU per hour Riley Stoker pulverized coal-fired boiler equipped with low NO_X burners. PM and PM_{10} emissions are controlled by one (1) electrostatic precipitator (Unit 1 ESP); NO_X emissions are controlled by one (1) selective catalytic reduction system (Unit 1 SCR); and SO_2 emissions are controlled by one (1) flue gas desulfurization system (Unit 1 FGD)	CO, NOX, PM, PM_{10}, $PM_{2.5}$, SO2, VOCs, HAPs, CO_{2e}	The SCR and FGD systems were installed for compliance with the Air Quality / Electric Utilities Bill (SB 1078 – NC Clean Smokestacks Act), and (along with the SO_3 mitigation system) can be operated on an as needed basis.
Unit 2 Boiler	One (1) 2,102 million BTU per hour Babcock & Wilcox pulverized coal-fired boiler equipped with low NO_X burners. PM emissions are controlled by one (1) electrostatic precipitator (Unit 2 ESP); NO_X emissions are controlled by one (1) selective catalytic reduction system (Unit 2 SCR); and SO_2 emissions are controlled by one (1) flue gas desulfurization system (Unit 2 FGD)	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, HAPs, CO_{2e}	The SCR and FGD systems were installed for compliance with the Air Quality / Electric Utilities Bill (SB 1078 – NC Clean Smokestacks Act), and (along with the SO_3 mitigation system) can be operated on an as needed basis.
Unit 3 IC Turbine	One (1) 1,929 million BTU per hour General Electric natural gas / No. 2 fuel oil-fired simple-cycle internal combustion turbine	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, HAPs, CO_{2e}	This unit employs direct water injection to reduce NO_X emissions.
Unit 4 IC Turbine	One (1) 1,929 million BTU per hour General Electric natural gas / No. 2 fuel oil-fired simple-cycle internal combustion turbine	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, HAPs, CO_{2e}	This unit employs direct water injection to reduce NO_X emissions.
Limestone Crusher	One (1) 150-ton per hour crusher with PM emissions controlled by one (1) bagfilter (LC-BF-1)	PM, PM_{10}, $PM_{2.5}$	
Limestone Conveyor 1	One (1) 150-ton per hour belt conveyor measuring 270 feet x 24 inches (DEP ID L2)	PM, PM_{10}, $PM_{2.5}$	This covered conveyor transports coarse limestone from the outdoor storage pile to the crusher. This conveyor does not have a bagfilter.

Limestone Conveyor 2	One (1) 150-ton per hour belt conveyor measuring 408 feet x 24 inches (DEP ID L4) with PM and PM_{10} emissions controlled by one (1) bagfilter (CONV-BF-2)	PM, PM_{10}, $PM_{2.5}$	This covered conveyor transports limestone from the crusher to a chute that loads Bin 1 and Conveyor 3. The bagfilter controls emissions from the chute.
Limestone Conveyor 3	One (1) 150-ton per hour belt conveyor measuring 44 feet x 24 inches (DEP ID L5)	PM, PM_{10}, $PM_{2.5}$	This covered conveyor loads Bin 2.
Limestone Bin 1	One (1) 400-ton capacity storage bin with PM emissions controlled by one (1) bagfilter (LDB-BF-1)	PM, PM_{10}, $PM_{2.5}$	
Limestone Bin 2	One (1) 400-ton capacity storage bin with PM emissions controlled by one (1) bagfilter (LDB-BF-2)	PM, PM_{10}, $PM_{2.5}$	
Emergency Generator 1	One (1) diesel-fired emergency-use generator with a rated output capacity of 380 horsepower	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, HAPs, CO_{2e}	Previously, an insignificant activity, it is included as a permitted source because it is now subject to the RICE MACT.
Fire Pump Engine 1	One (1) diesel-fired emergency-use fire pump engine with a rated output capacity of 370 horsepower	CO, NOX, PM, PM10, PM2.5, SO2, VOCs, HAPs, CO_{2e}	Previously, an insignificant activity, it is included as a permitted source because it is now subject to the RICE MACT.
Sorbent 1	One (1) 40-50-ton capacity sorbent receiving trailer with PM emissions controlled by one (1) dust collector (SORB-DC-1)	PM, PM_{10}, $PM_{2.5}$	These trailers are part of the dry sorbent (hydrated lime) injection system covered by this permit review. Sorbent 1 and Sorbent 2 are controlled by a common dust collector containing filter cartridges.
Sorbent 2	One (1) approximately 18-ton capacity sorbent metering trailer with PM emissions controlled by one (1) dust collector (SORB-DC-1)	PM, PM_{10}, $PM_{2.5}$	

Insignificant Activities [per WNCRAQA 17.0503(8)]			
NA	Two (2) 1,804,000-gallon capacity aboveground No. 2 fuel oil storage tank	VOCs	
NA	Two (2) 15,000-gallon capacity urea storage tanks	VOCs	These tanks are now being added to the Insignificant Activities list.
NA	One (1) 90,000-gallon capacity urea solution feed tank	VOCs	This tank is now being added to the Insignificant Activities list.
NA	One (1) 4.00 million BTU per hour natural gas-fired gas heater	CO, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, VOCs, HAPs, CO_{2e}	
NA	One (1) 200-gallon capacity No. 2 fuel oil storage tank	VOCs	
NA	One (1) 280-gallon capacity No. 2 fuel oil storage tank	VOCs	
NA	One (1) 25,000-gallon capacity (light off) No. 2 fuel oil storage tank	VOCs	
NA	Two (2) 6,200-gallon capacity lube oil tanks	VOCs	
NA	Two (2) 250-gallon capacity false start drain tanks	VOCs	

NA	One (1) 280-gallon capacity No. 2 fuel oil storage tank	VOCs	
NA	One (1) 2,000-gallon capacity kerosene storage tank	VOCs	
NA	One (1) 1,000-gallon capacity gasoline storage tank	VOCs	
NA	One (1) 8,000-gallon capacity batch lube oil tank	VOCs	
NA	One (1) 9,200-gallon capacity batch lube oil tank	VOCs	
NA	One (1) 4,455-gallon capacity turbine lube oil tank with demister	VOCs	
NA	One (1) 3,000-gallon capacity turbine lube oil tank with demister	VOCs	
NA	One (1) 8,000-gallon capacity transformer oil tank	VOCs	
NA	One (1) 500-gallon capacity mobile diesel fuel storage tank	VOCs	
NA	Coal handling / coal pile / ash handling and ash pond	PM, PM_{10}, $PM_{2.5}$	
NA	One (1) 5,000-gallon sulfuric acid tank	H_2SO_4 (TAP)	
NA	Gypsum handling system	PM, PM_{10}, $PM_{2.5}$	
NA	Limestone pile	PM, PM_{10}, $PM_{2.5}$	

APPLICATION NOTES

As indicated in the notes to the table, the emergency generator and the fire pump engine were removed from the list of Insignificant Activities and included as permitted sources (beginning with Permit No. 11-628-10) because they are subject to the RICE GACT (Generally Available Control Technology; 40 CFR 63 Subpart ZZZZ). While these sources are not required to be permitted, they were added to the permit so that the applicable requirements could be documented.

SECTION C DETAILS

REGULATORY INFORMATION

(Identify the WNCRAQA Regulations reviewed because of this application. At a minimum, the regulations already listed should be reviewed and reason given for applicability or non-applicability. If a regulation has a standard, list the standard and indicate how the source is in compliance.)

WNCRAQA REGULATION NUMBER / TITLE	EMISSION SOURCE ID NO(S). SUBJECT	NOTES ON REGULATION (Compliance demonstration, applicability, etc.)
17.0500 – Title V Procedures (40 CFR Part 70)	All	DEP is subject to Title V permitting procedures due to: 1) potential emissions in excess of the 100-ton per year applicability threshold for criteria air pollutants; 2) applicability of Title IV; and 3) being a source category designated by EPA as subject to the requirements of 40 CFR Part 70. While the facility has potential emissions above the greenhouse gas thresholds of 100,000 tons per year of CO_{2e}, a temporary rule amendment that states that greenhouse gas (GHG) emissions alone do not trigger Title V applicability has recently been adopted.
17.0700 – Toxic Air Pollutant Procedures	NA	DEP is not subject to a toxic air pollutant evaluation under the toxic air pollutant procedures. Although PEC has been modified since September 30, 1993, none of these modifications was required to undergo a toxic air pollutant evaluation because the regulations included a combustion source exemption that was in effect until July 2010.
4.0524 – New Source Performance Standards (40 CFR Part 60)	Unit 3 IC Turbine, Unit 4 IC Turbine	Each turbine is subject to the requirements of 40 CFR Part 60, Subpart GG – "Standards of Performance for Stationary Gas Turbines." Both meet the definition of "*stationary gas turbine*" in 60.331, exceed the applicability threshold of 10.7 gigajoules per hour (10.1 million BTU per hour) in 60.330, and were constructed after the applicability date of October 3, 1977 in 60.330. As such, both are subject to a NO_X emission limitation for natural gas and fuel oil and a fuel sulfur content standard of 0.8 percent by weight. The permit was previously modified such that fuel bound nitrogen is no longer of concern.
4.0524 – New Source Performance Standards (40 CFR Part 60)	Limestone Crusher, Limestone Conveyor 1, Limestone Conveyor 2, Limestone Bin 1, Limestone Bin 2	Each piece of equipment is subject to the requirements of 40 CFR Part 60, Subpart OOO – "Standards of Performance for Nonmetallic Mineral Processing Plants". All meet the definition of "*nonmetallic mineral processing plant*" in 60.671 and exceed the applicability threshold of 25 tons per hour capacity in 60.670. As each piece of equipment is considered to have "*stack emissions*" as defined in 60.671, each piece is subject to both a particulate matter (0.05 grams per dry standard cubic meter) and visible emissions (7 percent opacity) limitation. In December 2005 and January 2006, DEP conducted initial performance tests for each piece of equipment to demonstrate compliance with the applicable limitations.
4.0530 – Prevention of Significant Deterioration	Unit 1 Boiler, Unit 2 Boiler, Unit 3 IC Turbine, Unit 4 IC Turbine	Since the time when the final PSD regulation was published in 1980, DEP has made no major modifications that are subject to a PSD review. At the time Unit 3 IC Turbine and Unit 4 IC Turbine were constructed, DEP requested avoidance conditions be placed in their permit to govern the modification such that a significant net emissions increase did not occur for any regulated pollutant. These conditions currently require DEP to combust no fuel oil in the turbines with a sulfur content in excess of 0.05 percent by weight; limit total emissions from both units to 40 tons of SO_2 per year, 25 tons of PM per year, and 15 tons of PM_{10} per year; and limit facility-wide NO_X emissions to 13,725 tons per year. Compliance with these limitations is determined through monitoring, recordkeeping, and reporting over a consecutive 12-month rolling period. PSD was not triggered by the modification of Unit 1 (covered under Permit No. 11-628-10C), as projected actual emissions were below the significant emission rates (SERs). See additional comments in Regulatory Notes below.
4.1110 – National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)	NA	The facility has no equipment or processes subject to a standard under 40 CFR Part 61.

4.1111 – Maximum Achievable Control Technology (40 CFR Part 63 Subpart ZZZZ)	Emergency Generator 1, Fire Pump Engine 1	The 380 HP emergency diesel generator and the 370 HP emergency diesel fire pump engine are now subject to 40 CFR Part 63, Subpart ZZZZ – "Reciprocating Internal Combustion Engines (RICE)," which was amended on March 3, 2010 to cover existing stationary combustion ignition (CI) RICE with a site rating of less than or equal to 500 HP located at major sources. Requirements involve maintenance practices.
4.1111 – Maximum Achievable Control Technology (40 CFR Part 63 Subpart UUUUU)	Unit 1 Boiler, Unit 2 Boiler	Unit 1 and Unit 2 are subject to 40 CFR Part 63, Subpart UUUUU – "Coal- and Oil Fired Electric Steam Generating Units (Utility MACT)." Facilities are required to be compliant by April 16, 2015. Requirements include emission limits and work practice standards for HAPS, and demonstration of the initial and continuous compliance with those emission limitations. See additional comments in "Regulatory Notes" below.
4.0515 – Particulates from Miscellaneous Industrial Processes	Sorbent 1, Sorbent 2	The allowable emission rate is a function of the process weight rate and shall be determined by the following equation, where P is the process throughput rate in tons per hour (tons/hr) and E is the allowable emission rate in pounds per hour (lbs/hr): $E = 4.10 * (P)^{0.67}$ for $P < 30$ tons/hr Provided the facility maintains the dust collector on the sorbent trailers, it will be assumed these operations are in compliance with this regulation.
4.0516 – Sulfur Dioxide Emissions from Combustion Sources	Unit 1 Boiler, Unit 2 Boiler	These units are subject to this regulation because they combust sulfur-containing fuels. This regulation limits SO_2 emissions from each unit to 2.3 pounds per million BTU heat input. Compliance with this limitation is determined by continuous measurement of emission rates using a continuous emission monitoring system (CEMS) per WNCRAQA Code 4.0608. See additional comments in "Regulatory Notes" below.
4.0519 – Control of Nitrogen Dioxide and Nitrogen Oxides Emissions	Unit 1 Boiler, Unit 2 Boiler	These units are subject to this regulation because they combust coal and have a heat input capacity greater than 250 million BTU per hour. This regulation limits NO_X emissions from each unit to 1.8 pounds per million BTU heat input when combusting coal only, or according to the equation in "Regulatory Notes" below when combusting both coal and oil or gas in combination. Compliance with this limitation is determined by continuous measurement of emission rates using CEMS.
4.0521 – Control of Visible Emissions	Unit 1 Boiler, Unit 2 Boiler, Unit 3 IC Turbine, Unit 4 IC Turbine, Sorbent 1, Sorbent 2	These units are subject to this regulation because they are combustion sources. This regulation limits visible emissions from each boiler to no more than 40% opacity due to their pre-1971 manufacture date. Compliance with this limitation is determined by either a continuous measurement of opacity using a continuous opacity monitoring system (COMS) per WNCRAQA Code 4.0606, or by conducting Method 9 measurements when using the PM CEMS. See additional comments regarding boiler opacity in "Regulatory Notes" below. Visible emissions from the combustion turbines and the sorbent trailers are limited to 20% opacity.
4.0535 – Excess Emissions Reporting and Malfunctions	Unit 1 Boiler, Unit 2 Boiler	These units are subject to this regulation because they are electric utility boiler units. This regulation requires the facility to have a malfunction abatement plan for ESPs associated with the boilers and to maintain logs showing that the operation and maintenance parts of the plan are implemented. DEP submitted their initial plan in 1979 and revised the plan most recently in 1998.
4.0536 – Particulate Emissions from Electric Utility Boilers	Unit 1 Boiler, Unit 2 Boiler	These units are subject to this regulation because they are specified in the list of (non-NSPS) electric utility boiler units in the regulation. This regulation limits PM emissions from each boiler to 0.12 lb/MM BTU heat input. To monitor this PM limit, 3-hour opacity limits of 14% for Unit 1 and 9% for Unit2 have been established. This regulation also includes an annual average opacity (AAO) limit for Unit 1 Boiler of 10% and Unit 2 Boiler of 5%. DEP will demonstrate compliance with the PM limitation by conducting annual Method 5B performance tests, and will directly measure emissions when using the PM CEMS. Compliance with the AAO limit is determined by either using a COMS or a PM CEMS to determine opacity and averaging daily values over a consecutive 365-day rolling period. See additional comments in "Regulatory Notes" below.

4.0540 – Particulates from Fugitive Non-process Dust Emission Sources	Facility-Wide	The intent of placing this regulation in the facility's permit is to govern facility-wide fugitive emissions from non-process sources, including fugitive emissions associated with the limestone storage, crushing, and handling operations. The facility will take reasonable precautions to prevent particulate matter from becoming airborne as the result of storage, transportation, processing, and/or handling of materials. Compliance with this regulation will be determined through facility self-monitoring and Agency inspections.
4.0606 – Sources Covered by Appendix P of 40 CFR Part 51	Unit 1 Boiler, Unit 2 Boiler	These units are subject to this regulation because they are fossil-fuel-fired steam generators with an annual average capacity factor greater than 30 percent and a heat input capacity greater than 250 million BTU per hour. As such, DEP is required to monitor opacity using COMS that meets the specifications of Performance Specification 1 in Appendix B of 40 CFR Part 60. See additional comments in "Regulatory Notes" below.
4.0608 – Other Large Coal or Residual Oil Burners	Unit 1 Boiler, Unit 2 Boiler	These units are subject to this regulation because they are coal-fired units with an annual average capacity factor greater than 30 percent, a heat input capacity greater than 250 million BTU per hour, and are not required to monitor SO_2 by WNCRAQA Code 4.0606. Since DEP is required to monitor SO_2 emissions under WNCRAQA Code 17.0402 using CEMS, this regulation also requires DEP to monitor compliance with the SO_2 limitation in WNCRAQA Code 4.0516 using CEMS. The CEMS are required to meet the specifications 40 CFR Part 75. See additional comments in "Regulatory Notes" below.
4.0612 – Alternative Monitoring and Reporting Procedures	Unit 1 Boiler, Unit 2 Boiler	Through this regulation, these units use a PM CEMS-based monitoring, recordkeeping, and reporting option to comply with the opacity limits of 4.0521 and the AAO limits and PM emission limit of 4.0536 as an alternative to the current COMS-based monitoring, recordkeeping, and reporting requirements. See the notes for those rules above and the additional comments in "Regulatory Notes" below.
4.0614 – Compliance Assurance Monitoring (40 CFR Part 64)	Unit 1 Boiler, Unit 2 Boiler	These units are subject to this regulation because: 1) they are subject to a PM emission limit under WNCRAQA Code 4.0536; 2) they utilize ESPs to comply with the emission limitation; and 3) they each have potential pre-control device emissions greater than 100 tons per year. As such, DEP has a compliance assurance monitoring (CAM) plan, which will continue to be followed when using the COMS option to demonstrate compliance. When using the PM CEMS option, a CAM plan is not required. DEP permitted and installed a PM CEMS which satisfies the requirements of CAM per 40 CFR 64.3(d).
4.2400 – Clean Air Interstate Rule (CAIR)	Unit 1 Boiler, Unit 2 Boiler, Unit 3 IC Turbine, Unit 4 IC Turbine	These units are subject to this regulation because they are specified in the list of electric utility boiler units in the regulation. This regulation specifies facility-wide NO_X emission caps both annually and for the ozone season beginning with 2009. Annual SO_2 emission caps for Units 1 and 2 are those in the Phase II Acid Rain Program. DEP is allowed to use the NO_X and SO_2 emissions/allowance trading program and banking set out in WNCRAQA Code 4.2408. This regulation requires monitoring, recordkeeping, and reporting in accordance with 40 CFR Part 96.
4.2500 – Mercury Rules for Electric Generators	Unit 1 Boiler, Unit 2 Boiler	These units are subject to this regulation because they are specified in the list of electrical generating units in the regulation. This regulation specifies annual mercury emission caps for each unit beginning with 2010. As explained in the Section A Details for Permit No. 11-628-10, NC DAQ determined that the CAMR vacature made all of the 2D .2500 rules, except Sections 2D .2509 and .2511, deficient and impractical. Consistent with DAQ guidance, the 4.2500 rules will be placed in the permit with a footnote stating that 4.2509 and .2511 are local-enforceable and that all other sections of 4.2500 will not be enforced at this time.
17.0402 – Acid Rain Permitting Procedures (40 CFR Parts 72 & 76)	Unit 1 Boiler, Unit 2 Boiler, Unit 3 IC Turbine, Unit 4 IC Turbine	DEP is subject to Title IV permitting procedures because each unit is specified as an affected unit in 40 CFR Part 72 and both boilers are specified as affected units in 40 CFR Part 76. In accordance with Title IV permitting procedures, DEP has submitted a timely and complete application for renewal of their Acid Rain permit. The provisions of this permit will be incorporated into the Title V permit. See comment in "Regulatory Notes" below.

REGULATORY NOTES

4.0516: This regulation does not apply to the Unit 3 and Unit 4 IC Turbines, as it specifically exempts emission sources subject to WNCRAQA Code 4.0524.

4.0519: The applicable equation when combusting both coal and oil or gas is E = [(Ec)(Qc) + (Eo)(Qo)] / Qt, where:

E = emission limit in lb/MMBtu heat input	Ec = 1.8 lb/MMBtu heat input,
Eo = 0.8 lb/MMBtu heat input	Qc = coal heat input in Btu/hr
Qo = oil and gas heat input in Btu/hr	Qt = Qc + Qo.

Since DEP is required to monitor NO_X emissions under WNCRAQA Code 17.0402 using a CEMS, WNCRAQA has established requirements in the Title V permit for DEP to also monitor compliance with the NO_X limitation in WNCRAQA Code 4.0519 using a CEMS. For consistency with SO_2 monitoring requirements in WNCRAQA Code 4.0608 (as described below), DEP is required to submit quarterly excess emissions reports as described in Appendix P of 40 CFR Part 51. Excess emissions are determined by averaging hourly CEMS values over a 24-hour block period. No modifications to these requirements are being made at this time.

4.0521: Under the PM CEMS Monitoring Option, periodic Method 9 measurements would be performed following the schedule in NSPS Subpart D §60.45(b)(7)(i).

4.0530: Maximum controlled PM (PM_{10}, $PM_{2.5}$) emissions from the dust collector controlling the dry sorbent injection system were determined to be 0.011 lb/day (see the Section D Details in the Permit Review for Permit No. 11-628-10A). This emissions increase would be more than offset by use of the alkaline additive, which was determined to result in a maximum reduction in PM emissions of 28 lb/day for Units 1 and 2 combined (see the Section D Details in the Permit Review for Permit No. 11-628-10B).

To demonstrate that the modification to Unit 1 covered in Permit No. 11-628-10C (i.e., replacing the economizer inlet header, upper and lower tube bundles, and intermediate header at the reheat bypass wall) was not a PSD major modification, DEP provided emission calculations showing that any increase in projected actual emissions over baseline emission levels would not exceed the PSD SERs.

4.0536: Under the PM CEMS Monitoring Option, a PM limit of 0.10 lb/MMBtu, consistent with NSPS Subpart D §60.42(a)(1), has been established (vs. 0.12 lb/MMBtu under the COMS-based option). The PM CEMS conforms to Performance Specification 11 (PS-11) of Appendix B and Procedure 2 of Appendix F of 40 CFR 60. Because PM emissions are directly measured under the PM CEMS-based option, there is no need to monitor opacity to use as a surrogate in determining compliance with this PM emission limit, as is done under the COMS-based option. Because Unit 1 and Unit 2 have FGDs, annual stack testing follows the procedures of 40 CFR 60 Appendix A-3, Method 5B instead of Method 5, per 40 CFR 60.46(b)(2).

In the September 6, 1985 Report of the Proceedings of the Public Hearing on Proposed Amendments to Regulations 15 NCAC 2D .0501, .0508, .0521 and .0536, the NC Environmental Management Commission stated in the response to public comments that:

> *The purpose of annual opacity limits is not to protect the short term suspended particulate standard. Their purpose is to ensure good operation and maintenance, and thereby indirectly protect the short term standard. The long term standard is slightly more directly protected by the annual opacity limits. In any case, both the short and long term standards are protected by the maximum emission limits.*

The annual average opacity limits were designed as a means to demonstrate adequate PM control. In the January 28, 2009 amendments to 40 CFR 60 Subparts D, Da, Db, and Dc, EPA stated in the response to public comments that:

> *The opacity standard and all opacity monitoring requirements have been eliminated for owner/operators of affected facilities complying with a federally enforceable PM limit of 0.030 lb/MMBtu or less who voluntarily elect to use a PM CEMS to demonstrate continuous compliance with the PM limit. The contribution of filterable PM to opacity at these emission levels is generally negligible, and sources with mass limits at this level or less will operate with little or no visible emissions (i.e. less than 5 percent opacity). As a result, EPA believes that an opacity standard is*

no longer necessary for these sources since the PM mass emission rate standard is substantially tighter than the opacity standard and the mass of PM emissions will be continually monitored.

We concluded, however, that it is only appropriate to eliminate the opacity standard and associated opacity monitoring for owners/operators of facilities complying with a PM limit 0.030 lb/MMBtu or less. At this emission rate, the presence of visible emissions may indicate that the PM control device is not operating properly.

Based on the above, the PM CEMS-based option determines annual average opacity as follows. First, the PM CEMS concentration in mg/m^3 at the 160° C sampling temperature that is equivalent to 0.03 lb PM/MMBtu is determined from data collected during the PM CEMS certification. Based on CEMS certification, the value for Unit 1 is 17.56 mg/m^3 and the value for Unit 2 is 14.82. This equivalent PM concentration represents 5% opacity. Opacity is calculated from the hourly PM CEMS concentrations based on a linear relationship. For example, if the equivalent PM concentration to 0.03 lb PM/MMBtu is 17.56 mg/m^3 as it is for Unit 1, the opacity equation would be:

$$\text{Opacity (\%)} = \text{PM CEMS concentration (mg/m}^3\text{)} \times (5\% \text{ Opacity} / 17.56 \text{ mg/m}^3)$$

In calculating the AAO, 6-minute opacities determined by the COMS may need to be combined with hourly opacity determined by the PM CEMS. In such cases, the PM CEMS readings will need to be weighted by a factor of 10 to account for the difference in averaging time (6 minutes vs. 1 hour).

Units 1 and 2 are not subject to NSPS Subpart D, and DEP is not requesting federally enforceable limit of 0.03 lb PM/MMBtu. However, when using the PM CEMS-based option, an hourly PM concentration (mg/m^3) equivalent to 0.03 lb/MMBtu would be used to indicate good operation and maintenance of the ESPs. Exceedances of this PM limit would be allowed, but must remain below 3% of the operating time.

Additional information on using a PM CEMS in place of a COMS is in an excerpt of DAQ's permit review of DEP's Roxboro plant attached to the permit review for Permit No. 11-628-10B. Note: Opacity was previously measured by a COMS and is now measured by periodic Method 9 testing. The COMS is located upstream of the FGD to avoid interference from water vapor produced by the FGD. Hydrated lime, used to prevent corrosion in the ductwork, is now injected at various points upstream of the COMS, which results in elevated opacity levels. Because the lime is subsequently removed by the FGD, the opacity measured by the COMS is not representative of the opacity at the stack exit. While the COMS measurements are no longer used for compliance purposes, they provide information used to control the FGD.

4.0606: This regulation requires DEP to conduct a daily zero and span check of the COMS following the manufacturer's recommendations and to comply with the requirements of WNCRAQA Code 4.0613 – "Quality Assurance Program." WNCRAQA Code 4.0613 requires DEP to develop and implement an approved quality assurance program for the COMS, which DEP has done. This regulation also requires DEP to submit quarterly excess emissions reports as described in Appendix P of 40 CFR Part 51. Excess emissions are determined by averaging COMS values over a 6-minute period. No modifications to these requirements are being made at this time.

4.0608: This regulation requires DEP to conduct a daily zero and span check of the CEMS following the manufacturer's recommendations and to comply with the requirements of WNCRAQA Code 4.0613. DEP meets the quality assurance requirements of 4.0613 through compliance with Appendix B of 40 CFR Part 75 – "Quality Assurance and Quality Control Procedures". This regulation also requires DEP to submit quarterly excess emissions reports as described in Appendix P of 40 CFR Part 51. Excess emissions are determined by averaging hourly CEMS values over a 24-hour block period. No modifications to these requirements are being made at this time.

4.0612: In 2010, DEP petitioned WNCRAQA to use alternative monitoring (recordkeeping) and reporting procedures, as allowed under this regulation. This petition was approved and effective in January 2011.WNCRAQA's approval is based on using the applicable provisions in NSPS Subparts D and Da for PM CEMS certification and operation, as referenced in the permit.

4.1111: The MATS regulation outlines numerical emission limits and work practice standard requirements for affected units. All existing and new coal-fired electric generating units (EGU) must achieve numerical emission limits for mercury (Hg), filterable particulate matter (PM, a surrogate for non-mercury HAP metals), and hydrochloric acid or sulfur dioxide (HCl or SO_2, surrogates for acid gases).

MATS Rule Limits for Existing Coal-Fired Units Not burning Low Rank Virgin Coal (from 40 CFR Part 63, Table 2 & Table 7)

Constituent	MATS Limit Input-based	MATS Limit Output-based	Calculating Continuous Compliance (when using CEMS)
Filterable Particulate Matter	0.03 lb/MMBtu	0.3 lb/MWh	Single unit or facility, 30-day rolling average
(or) Non-Hg HAP Metals (or individual HAP metals – not included this table)	50 lb/TBtu	0.5 lb/GWh	Single unit or facility, 30-day rolling average
Hydrochloric Acid, HCL	0.002 lb/MMBtu	0.02 lb/MWh	Single unit or facility, 30-day rolling average
(or) Sulfur Dioxide, SO_2	0.2 lb/MMBtu	1.5 lb/MWh	Single unit or facility, 30-day rolling average
Mercury, HG	1.2 lb/TBtu	0.013 lb/GWh	Single unit, 30-day rolling average
	1.0 lb/TBtu	0.011lb/GWh	Facility, 90-day rolling average

Compliance for PM and HCl must be demonstrated using continuous emissions monitoring systems (CEMS) or quarterly stack testing. Compliance for mercury must be demonstrated continuously using CEMS or sorbent traps. The MATS rule requires Work Practice Standards (WPS) to minimize emissions during periods of startup and shutdown; as well as, WPS to reduce emissions of certain organic compounds (dioxins and furans) through burner inspection, maintenance and combustion control tuning.

On December 15, 2014, DEP requested an extension for certain work practice compliance requirements for startup and shutdown periods until April 16, 2016. The Agency granted this extension with certain requirements. These include that DEP apply for a modification to the permit and a progress report to the Agency by April 16, 2015. The Agency plans to include more specific MATS permit conditions in the permit during this modification.

To comply with provisions of MATS, DEP submitted a Mercury CEMS Certification and Non-redundant Back-up Sorbent Trap Mercury Monitoring System Package On February 4, 2015. DEP informed the Agency of planned stack testing of the PM CEMS, the SO_2 CEMS, and the Hg CEMS for Units 1 and 2 on April 16, 2015. Preliminary HG testing was performed during the RATA, PET and RRA testing of Units 1 and 2 in October and November of 2014. On March 3, 2015, DEP informed the Agency of the initial burner inspection and combustion tune-up of Unit 1 on January 22, 2015. Inspection and tune-up of Unit 2 is schedule during an outage in the spring of 2015.

On January 29, 2015, DEP requested an alternative monitoring/testing procedure for the MATS. DEP asked to be allowed to use the existing correlation data (that were developed for the PM CEMS) using Method 5B, instead of having to redevelop the initial correlation curve using Method 5 per the MATS. The EPA approved this request, with conditions, on January 29, 2015.

The compliance strategy for the Asheville facility currently includes the use of the SO_2 surrogate for the acid gases category. However, based on changing fuel blends, it may become necessary in the future for DEP to switch compliance approaches and begin using the quarterly HCl stack testing approach. Should it become necessary to switch compliance approaches, the conversion will need to occur relatively quickly to ensure continuous compliance with the 30-boiler operating day averages. As such, the facility received authorization to "preemptively" prepare a site-specific test plan for conducting hydrogen chloride testing in accordance with Method 26A and make the required 60-day submittals. Once it becomes necessary to "activate" this compliance approach, testing could occur as soon as 15-days. The purpose of this document is to present a site specific test plan for conducting hydrogen chloride testing in accordance with Method 26A and the requirements of 40 CFR 63, Subpart A, 63.7(b) and (c). This request was received by the Agency on February 25, 2015, and is under review.

17.0402: The permit application did not include updated Phase II NOx Compliance Plan or the Phase II NOx Averaging Plan which are part of the Acid Rain Permitting Program. DEP did not submit updated forms because the plans do not expire; however, the Agency requested that DEP submit updated plans for inclusion in the TV permit renewal. The Agency spoke with Cynthia Winston of DEP on March 18, 2015, concerning the Phase II NOx Averaging Plan for the Asheville Steam Plant. DEP has chosen to let this plan expire since several of the EGUs included in this plan have been or will be retired; and the

remaining units are fitted with SCRs and are able to meet the NOx limit of 0.46 lb/mm Btu on their own. The updated Compliance Plan was received on March 24, 2015.

SECTION D DETAILS				
EMISSION INFORMATION				
CALCULATION METHOD CODES (List all that apply)	1 = Stack test result 2 = Material (mass) balance 3 = EPA approved information (AP-42, CTG, etc.) 4 = Other (specify in table below)			
CALCULATION REJECTION CODES (List all that apply)	1 = Calculation error 2 = Wrong emission factor(s) used 3 = Control efficiency(ies) not accepted 4 = Other (specify in table below)			
EMISSION SOURCE (ID NO.)	CALCULATION METHOD CODE	ACCEPT OR REJECT?	CALCULATION REJECTION CODE	WNCRAQA CALCULATIONS ATTACHED?
Facility-Wide	1, 3	Accept	NA	No

EMISSION NOTES

WNCRAQA calculations for the 2013 Actual Emissions were used for the review. Calculations submitted by DEP were used for the Potential Emissions.

SECTION E

SUPPORTING DOCUMENTATION

(Provide brief description of any attachments)

1. Permit Renewal Application dated August 22, 2014
2. Updated NOx Averaging Plan for Acid Rain Permitting Program
3. Draft Title V permit
4. Draft permit cover letter
5. Draft public notice

March 26, 2015

WESTERN NORTH CAROLINA REGIONAL AIR QUALITY AGENCY

NOTICE OF OPPORTUNITY FOR PUBLIC COMMENT
NOTICE OF PUBLIC HEARING

DRAFT TITLE V PERMIT RENEWAL

To all interested parties:

The Western North Carolina Regional Air Quality Agency (WNCRAQA) announces its intent to renew a Title V permit for Duke Energy Progress, Inc. - Asheville Steam Electric Plant located at 200 CP&L Drive in Arden, North Carolina. The Asheville Steam Electric Plant operates two coal-fired boilers and two natural gas / No. 2 fuel oil-fired, simple-cycle combustion turbines. The primary purpose of the Title V permit is to consolidate and identify existing Local and Federal air quality requirements applicable to the Asheville Steam Electric Plant, and to provide practical methods for determining compliance with these requirements. The permit has been prepared in accordance with the WNCRAQA Air Quality Code, Chapter 17, Section .0500 – "Title V Procedures" and Title V of the Federal Clean Air Act. This permit will be enforceable by the WNCRAQA, the U.S. Environmental Protection Agency (EPA), and citizens as defined under the Federal Clean Air Act.

WNCRAQA has received a request for a public hearing on the proposed permit. A public hearing has been scheduled for 6 p.m. on April 29 at the Clyde A. Erwin High School Auditorium, 60 Lees Creek Road, Asheville. Individuals may register to speak at the hearing and/or submit written comments. Participants who wish to speak at the hearing should plan to limit their comments to three minutes or less. The hearing officer will have the discretion to limit speaking times, if necessary, to accommodate the number of speakers. Written comments will be accepted until April 30 and can be submitted at the hearing or sent to: Betsy Brown, Air Quality Supervisor, WNC Regional Air Quality Agency, 49 Mt Carmel Rd, Asheville, N.C. 28806, or by e-mail to betsy.brown@buncombecounty.org. All comments received on or prior to that date will be considered by the WNCRAQA in making its final decision to issue the Title V permit.

The draft permit, permit application, compliance plan, monitoring and compliance reports, all other relevant supporting materials, and all other materials available to the WNCRAQA that are relevant to the permit decision are available for public review at the following address: Western North Carolina Regional Air Quality Agency, 49 Mount Carmel Road, Asheville, NC 28806. Materials are available for review during the hours of 8:30 am to 5:00 pm, Monday through Friday. The office phone number is 828-250-6777.

EPA has agreed to treat this draft Title V permit as a proposed Title V permit and to perform its 45-day review provided by the law and regulations concurrently with the public notice period. Although EPA's 45-day review period will be performed concurrently with the public comment period, the deadline for submitting a citizen petition to object to the EPA Administrator will be

determined as if EPA's 45-day review period is performed after the public comment period has ended (i.e., sequentially). The status regarding EPA's 45-day review of this project and the deadline for submitting a citizen petition can be found at the following website address:

http://www.epa.gov/region4/air/permits/northcarolina.htm.

After the public comment period and EPA review period have expired, copies of the final Title V permit, as well as public and EPA comments received and any other relevant information, will then be public record available for review during normal business hours at the above address.

For additional information, please contact Betsy Brown, Air Quality Supervisor, at (828) 250-6787 or betsy.brown@buncombecounty.org.

DUKE ENERGY PROGRESS

Garry A. Whisnant
Plant General Manager
Asheville Steam Electric Plant

Duke Energy Progress
ASVL PLT | 200 CP&L Dr
Arden, NC 28704

o: 828-687-5201
f: 828-687-5204
garry.whisnant@duke-energy.com

Certified Mail:7013 3020 0002 4130 2732

February 16, 2016

File Pt.: 12512C

Mr. David Brigman, Director
Western North Carolina Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, North Carolina 28801

Subject: **Retroactive Modeling Analysis for 3-, 24-hour, and Annual SO_2 Standards**

Reference: **Duke Energy Progress, LLC**
Asheville Steam Electric Plant
Arden, North Carolina; Buncombe County
Permit No. 11-628-10D; Facility No. 11-628

Dear Mr. Brigman:

On August 22, 2014 Duke Energy Progress, LLC (Duke Energy) submitted a request to renew the current Title V Air Quality Permit for the Asheville Steam Electric Plant located in Arden, North Carolina. Permit No. 11-628-10D expired on May 31, 2015. In accordance with Section 5, General Conditions and Limitations Item K "Permit Renewal," the application was submitted at least nine months prior to the permit expiration (prior to August 31, 2014) and the facility is currently operating under the Permit Shield pending receipt of a renewed permit.

The Western North Carolina Regional Air Quality Agency (WNCRAQA) requested that Duke Energy submit a "retroactive" modeling analysis to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) in place at the time that the scrubbers were permitted (2003) at the facility. The enclosed document demonstrates that the facility can comply with the NAAQS in place at the time and requests that the renewed permit include a mass-based emissions limitation of 53,760 pounds per 24-hour period for the coal-fired units at the facility.

Duke Energy believes that the enclosed modeling analysis is a conservative estimate of actual ambient SO_2 impacts. The conservatism is in part due to the use of upper level meteorological data from Greensboro, North Carolina. This data may not reflect the impacts of the mountainous terrain features on meteorological conditions in the Asheville area. The data is conservative because local terrain around the station would create more atmospheric mixing than the model reflects.

Duke Energy has worked with the North Carolina Division of Air Quality (NCDAQ) to develop additional modeling approaches that closer reflect the station's impacts on air quality. To date, this work uses AERMOD with Weather Research Forecast (WRF) data rather than National Weather Service (NWS) data. AERMOD modeling analyses using WRF data shows compliance

with the more stringent 1-hour SO_2 NAAQS as well as the 3-hour, 24-hour, and annual SO_2 NAAQS. In addition, the enclosed analysis does not incorporate additional refinements to AERMOD, such as using a combined stack approach, adjustments for U*, low wind speed beta options, and wet stack buoyancy. All of these refinements are expected to reduce the over-prediction of ambient SO_2 concentrations. However, for purposes of this current permitting action, this model may be used as a conservative screening tool to show compliance with the WNCRAQA request.

Thank you for your time in reviewing this permit renewal application. Please contact Ms. Teresa Williams at (828) 687-5240 or Ms. Cynthia Winston at (919) 546-5538 with any questions or concerns.

Certification by Responsible Official

"Based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this document are true, accurate, and complete."

Sincerely,

Garry A. Whisnant
Asheville Plant Manager

Enclosure

BC: Teresa Williams
Cynthia Winston
Dan Markley

FINAL REPORT

RETROACTIVE SO_2 NAAQS MODELING ANALYSIS

Asheville Steam Station
Permit No. 11-628-10D
Facility ID No. 11-628
Arden, North Carolina

Prepared for:

DUKE ENERGY PROGRESS

Duke Energy Progress, LLC
410 S. Wilmington Street
Raleigh, NC 27601

Prepared by:

AECOM

AECOM Technical Services of North Carolina, Inc.
1600 Perimeter Park Drive, Suite 400
Morrisville, NC 27560

February 2016

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Appendix A Modeling Protocol

1.0 INTRODUCTION

Duke Energy Progress, LLC operates the Asheville Steam Station (Asheville Station), located in Buncombe County, North Carolina. The Asheville Station comprises 2 coal-fired boilers (Units 1 and 2) and 2 simple cycle natural gas and fuel oil turbines. On May 1, 2003, the facility submitted an air permit application for the installation of Flue Gas Desulfurization Systems for the reduction of SO_2, and SCR systems for the reduction of NO_x emissions on Asheville Units 1 and 2 to meet the Clean Smokestacks Bill requirements. Criteria pollutant modeling was not required or submitted with the application. The Asheville Station currently operates under Title V Air Quality Permit (AQP) No. 11-628-10D issued on May 14, 2013 by the Western North Carolina Regional Air Quality Agency (WNCRAQA) and expiring on May 31, 2015.

The facility's Title V permit is currently under review and WNCRAQA has requested Duke provide a retroactive SO_2 modeling analysis as part of the renewal process. Duke Energy is submitting this modeling analysis to demonstrate compliance with the 3-hour, 24-hour, and annual SO_2 National Ambient Air Quality Standards (NAAQS) in place at the time the scrubbers were installed. The modeling analysis described in this report is very conservative in its setup and uses all regulatory default settings. Future analyses submitted for other purposes could use more refined approaches to make a less conservative demonstration of ambient impacts.

In addition to the modeling protocol submitted to WNCRAQA on January 14, 2016, and approved via e-mail on January 29, 2016, the following modeling guidance was used to prepare this modeling demonstration:

United States Environmental Protection Agency
40 CFR Part 51 Guideline on Air Quality Models

United States Environmental Protection Agency
New Source Review Workshop Manual, Prevention of Significant Deterioration and Nonattainment Area Permitting (Draft)

North Carolina Division of Air Quality
North Carolina PSD Modeling Guidance

The analysis demonstrates that SO_2 emissions from the Asheville Steam Station result in modeled impacts below the 3-hour, 24-hour, and annual SO_2 NAAQS, when using permitted emission limits for all units except for the Unit 1 and Unit 2 Boilers. Duke Energy proposes to take new mass-based limits of 1,120 lb SO_2 /hr for each boiler. Actual emissions are well below these levels.

1.1 Contact Information

If there are any questions or comments regarding this report, please contact Ms. Cynthia Winston of Duke Energy Progress at (919) 546-5538.

1.2 Report Organization

The remainder of this report is divided into the following sections:

Section 2.0: Facility Information
Section 3.0: Air Quality Modeling Analysis

The table of contents contains a detailed listing of tables, figures, and appendices.

2.0 FACILITY INFORMATION

2.1 Site Location

The Asheville Station is located in Buncombe County. The Steam Station site is located approximately 13.88 kilometers (km) south of Asheville, North Carolina. The approximate UTM coordinates are Zone 17, 359.973 km east and 3,926.070 km north at an elevation of approximately 2,165 feet above mean sea level. The largest city near the site is Asheville, North Carolina. The Asheville Station is located in the Mountain region of North Carolina and the terrain surrounding the site can be considered mountainous. Figure 2-1 shows the site location and surrounding topography and Figure 2-2 is an aerial view of the facility.

2.1.1 Climatology and Meteorology

The site lies within a general climatic region known as Humid Subtropical. Temperatures are moderate with long summers and brief winters. An extended summer drought may result from dominance of the Bermuda high pressure off the east coast. Warm, moist air from the tropics dominates summer conditions while cooler, drier continental polar air controls winter weather. In general, temperatures are cooler in this region than the piedmont or coastal areas of the North Carolina.

Daily mean air temperatures over most of western North Carolina range between -3°C and 9°C in January, the coldest month, and between 18°C and 29°C in July, the warmest month. Annual precipitation averages about 116 cm/year throughout the basin.

2.1.2 Attainment Status of Area

The current Section 107 attainment status designations for areas within the state of North Carolina are summarized in 40 CFR 81.334. Buncombe County is classified as "better than national standards" for total suspended particulates (TSP, also referred to as Particulate Matter, PM, which includes particulate matter less than 10 microns, PM_{10}) and for sulfur dioxide (SO_2). Buncombe County is designated as "unclassifiable/attainment" for carbon monoxide (CO), $PM_{2.5}$, lead, ozone, and the 1-hour standard for nitrogen dioxide (NO_2). Buncombe County is designated as "cannot be classified or better than national standards" for the annual NO_2 standard.

3.0 AIR QUALITY MODELING ANALYSIS

3.1 Air Quality Analysis Approach

The analysis was based on requirements and recommendations contained in the NCDAQ's *North Carolina PSD Modeling Guidance*. This guidance was consulted as a default because no WNCRAQA county-specific guidance was available. A copy of the modeling protocol is contained in Appendix A. The protocol was approved by WNCRAQA via e-mail on January 29, 2016.

A very conservative modeling approach was employed for this analysis. All regulatory default model options were selected and a full inventory of nearby sources was included. Future analyses submitted for other purposes could use more refined approaches to make a less conservative demonstration of ambient impacts.

The following sections describe in detail the dispersion model selection, the meteorological data, the GEP building wake effect/downwash analysis, the modeling receptor grids, the emission sources, and the results of the modeling analysis.

3.1.1 Air Dispersion Model Selection

AERMOD Modeling System (version 15181)

Air emissions from the Asheville Station occur from multiple source locations; thus, the modeling analysis was performed using the AERMOD computer dispersion model. The AERMOD model was used to model the separated sources and predict maximum ambient concentrations. The modeling analysis was performed using 2008 through 2012 surface data from Asheville Regional Airport and upper-air meteorological data from the Piedmont Triad International Airport in Greensboro, North Carolina, received from DENR, to predict maximum ambient concentrations at corresponding receptor locations for each modeled compound. The AERMOD modeling was conducted using regulatory default options.

3.1.2 Meteorological Data

The Asheville Station is located in Arden, North Carolina approximately 14 kilometers south of Asheville in an area of complex terrain. Meteorological data for this area is not available for download on the NC DAQ website. NC DAQ does maintain meteorological data consisting of five years of surface and upper air data obtained from the Asheville Regional Airport processed and ready for AERMOD use, where appropriate. This data set is determined to be appropriate for the Asheville Station. The Asheville Station is located approximately 2 kilometers from the Asheville Regional Airport. Both the Asheville Station and the airport are located in the same valley of the Blue Ridge Mountains at approximately the same elevation. The land use surrounding the Asheville Station and the airport are similar due to the close proximity.

The five-year meteorological data set (2008-2012) of Asheville Regional Airport surface meteorological data and five years (2008-2012) of mixing height data derived from upper-air sounding data recorded at the Piedmont Triad International Airport in Greensboro, North Carolina were used in the modeling analysis.

The meteorological data set consists of 8,760 (8,784 for 2008 and 2012) hourly observations of the following parameters:

- Wind Speed,
- Wind Direction,
- Ambient Temperature,
- Atmospheric Stability, and
- Mixing Heights.

These data were used to calculate hourly plume rise and downwind concentrations at downwind receptor locations for a period up to a year. Each year was processed individually and maximum predicted concentrations for the worst-case year are reported in the modeling results for comparison to the NAAQS.

3.1.3 Good Engineering Practice (GEP) Stack Height Analysis

A GEP analysis was performed for all emission sources subject to a modeling analysis in order to determine if wake effects and downwash options need to be selected in the computer model. The GEP analysis was performed following the procedures outlined in the EPA documents *Guideline For Determination of Good Engineering Practice Stack Height (Technical Support Document For the Stack Height Regulations)* Revised (EPA-450/4-80-023R), the *User's Guide to the Building Profile Input Program* (October 1993), and the most recent version of the Building Profile Input Program with Prime Algorithms (BPIP Prime) program.

The building wake and downwash effect analysis was applied to each emission source. For each building, an area of wake and downwash effects extends outward to a distance of five times L (the lesser of the maximum projected width or height of the building) directly downwind from the leeward side of the building. Wake effects were assumed to occur if the emission source is located within a rectangle composed of two lines perpendicular to the wind direction, one at 5L downwind of the building and the other at 2L upwind of the building, and by two lines parallel to the wind direction, each at 0.5L away from each side of the building.

As the wind direction rotates, the wake and downwash effect region of influence changes and is combined to form a GEP 5L region of influence in all wind directions. Any emission source within the region of influence is affected by wake and downwash effects. For buildings close to an emission source, wake and downwash effects were considered where the distance between the emission source and the nearest part of the building is less than or equal to 5L. Wake and downwash effects from buildings that are closer than the greater of either building's maximum projected width or height are considered to have one region of influence.

When an emission source height is less than the GEP height and is located within the region of influence, direction-specific building dimensions are included in the modeling analysis and either the Schulman-Scire or the Huber-Snyder equations are used for calculating the wake and downwash concentrations.

The GEP analysis was performed for Asheville Station using the latest version of the Oris Solutions GEP program to demonstrate compliance with stack height regulations (40 CFR Part 51) and to determine which emission sources are impacted by building wake and downwash effects. The building heights and projected widths were input into the model for each ten degrees of wind direction. These building heights and projected widths are the same as are used for the GEP stack height calculation.

Enclosed with this report is a CD-ROM that contains the results of the GEP output including the direction-specific building dimensions. Table 3-1 presents a list of modeled building and tank parameters.

3.1.4 Receptors

The dispersion modeling receptor grids were developed following procedures outlined in the *New Source Review Workshop Manual* (October 1990) and the *North Carolina PSD Modeling Guidance* (January 2012). A detailed discrete receptor grid system was created to assess air quality impacts in all directions from the Asheville Station to a distance of up to 10 km from the property boundary.

Discrete receptors were placed along the property line at 50-meter intervals. A 100-meter grid spacing was used from the property line out to a distance of approximately 500 meters and 500-meter grid spacing from 500 m to 1,000 m. The remaining grid from 1,000 m to approximately 10,000 m used a 1,000-meter grid spacing. Figure 3-1 presents the modeling receptor grid. All receptor coordinates are expressed in UTM coordinates.

3.1.5 Sources

There are multiple SO_2 emissions sources present at the Asheville Station, all of which were modeled as point sources.

The AERMOD model uses a steady-state Gaussian plume equation to model emissions from point sources such as stacks and vents. All point sources were modeled using nominal stack exhaust parameters. The following parameters were used for modeling the point sources: emission rates (grams/sec), stack height (m), stack diameter (m), stack exit velocity (m/sec), stack exhaust temperature (K), and direction-specific building dimensions (m). All point sources with rain caps or horizontal stacks were modeled with a default exit velocity of 0.01 m/s. Table 3-2 presents a list of the modeled facility point sources and their associated parameters. The source and building layout for modeling is shown in Figure 3-2.

3.1.6 Offsite Sources

Emission sources within a 50 km radius of the Asheville Station were included in the modeling. These offsite sources were provided by WNCRAQA, NCDAQ, and South Carolina Department of Health and Environmental Control (SCDHEC). Source parameters and emission rates for these offsite sources are provided in Table 3-3.

3.1.7 Background Air Quality Data

Background air quality concentrations were obtained from NCDAQ. These concentrations, calculated in the form of the NAAQS, were added to the maximum predicted concentrations from all sources at the worst-case receptors to determine a conservative worst-case air quality impact. The background values are provided in Table 3-4.

3.1.8 Modeled SO_2 Emission Rates

3.1.8.1 Potential SO_2 Emission Rates

Initial modeling was performed using potential or allowable emission rates estimated using each source's maximum capacity and either permit limits or published emission factors (see Table 3-5). The permit limits and published emission factors used in the emissions calculations are shown below for annual and short-term periods.

Annual SO_2 Emissions (8,760 hours/year unless otherwise noted)

- Unit 1 and Unit 2 boilers: based on permit condition Section 4 allowance of 6,633 tons/year (tpy) for Unit 1 and 5,271 tpy for Unit 2 (40 CFR 73)
- Unit 1 and Unit 2 turbines: based on permit condition 2.2: 40 tons SO_2 per consecutive 12-month period (WNCRAQA Code 4.0530)
- Emergency Generator 1: emission factors from AP-42 Table 3.3-1 (500 hours/year)
- Fire Pump Engine 1: emission factors from AP-42 Table 3.3-1 (500 hours/year)
- Heater: emission factors from AP-42 Table 1.4-2

Short-Term SO_2 Emissions

- Unit 1 and Unit 2 boilers: based on permit condition 2.1: 2.3 lb/MMBtu (WNCRAQA Code 4.0516)
- Unit 1 and Unit 2 turbines: based on permit condition 2.2: 0.05% by weight sulfur content of No. 2 fuel oil (WNCRAQA Code 4.0530); AP-42 Table 3.1-2a and 0.05% S
- Emergency Generator 1: emission factors from AP-42 Table 3.3-1
- Fire Pump Engine 1: emission factors from AP-42 Table 3.3-1
- Heater: emission factors from AP-42 Table 1.4-2

Modeled impacts were below the level of the annual standard when the maximum capacity and permit limits were used in the analysis. However, these maximum allowable emission rates are above actual emission rates and are not appropriate for demonstrating that modeled impacts are below the short-term standards (3-hour and 24-hour).

3.1.8.2 Alternate Short-Term Rates

The Unit 1 and Unit 2 boilers were the major contributors to the maximum modeled concentrations. Therefore, modeling against the short-term standards was performed again using emission rates for the boilers that better represent maximum actual emissions, rather than maximum allowable emissions. Two alternate hourly rates were calculated and the maximum between the two was selected for modeling. The first hourly emission rate was back-calculated using the Acid Rain Allowance from permit condition Section 4 and assuming 8,760 hours/year of operation. The second hourly emission rate was calculated using factors from AP-42 Table 1.1-3 and 4.5% sulfur with 90% control applied. See Table 3-6 for the calculations. The emission rates highlighted in yellow in Table 3-6 were modeled. Modeled impacts were not below the short-term standards using these alternate emission rates.

3.1.8.3 Optimized Emission Rates

Modeling was performed to estimate an emission rate for the boilers that would lead to a maximum modeled concentration that is approximately 95% of the standard. This optimized hourly rate is 1,120 lb/hour for each boiler (Table 3-7).

The Asheville Station submits an Air Emissions Inventory (AEI) to WNCRAQA each year. According to the data submitted, the maximum hourly emission rate for either boiler over the 2010-2014 time period is approximately one third of the optimized emission rate.

3.2 Modeling Results

The modeling analysis followed the NC DAQ's *North Carolina PSD Modeling Guidance* (as a default in lieu of WNCRAQA-specific guidelines); a copy of the approved modeling protocol is included in Appendix A. Optimized emission rates for the Unit 1 and Unit 2 boilers, along with potential emission rates for other sources, were modeled against the 3-hour, 24-hour, and annual NAAQS. Table 3-8 presents a summary of the maximum modeling results for SO_2.

The SO_2 modeling analysis demonstrates that the maximum optimized emissions of SO_2 from the boilers, along with potential emission rates for other sources, do not result in predicted ambient concentrations that exceed the NAAQS.

Figures and Tables

AECOM

February 2016

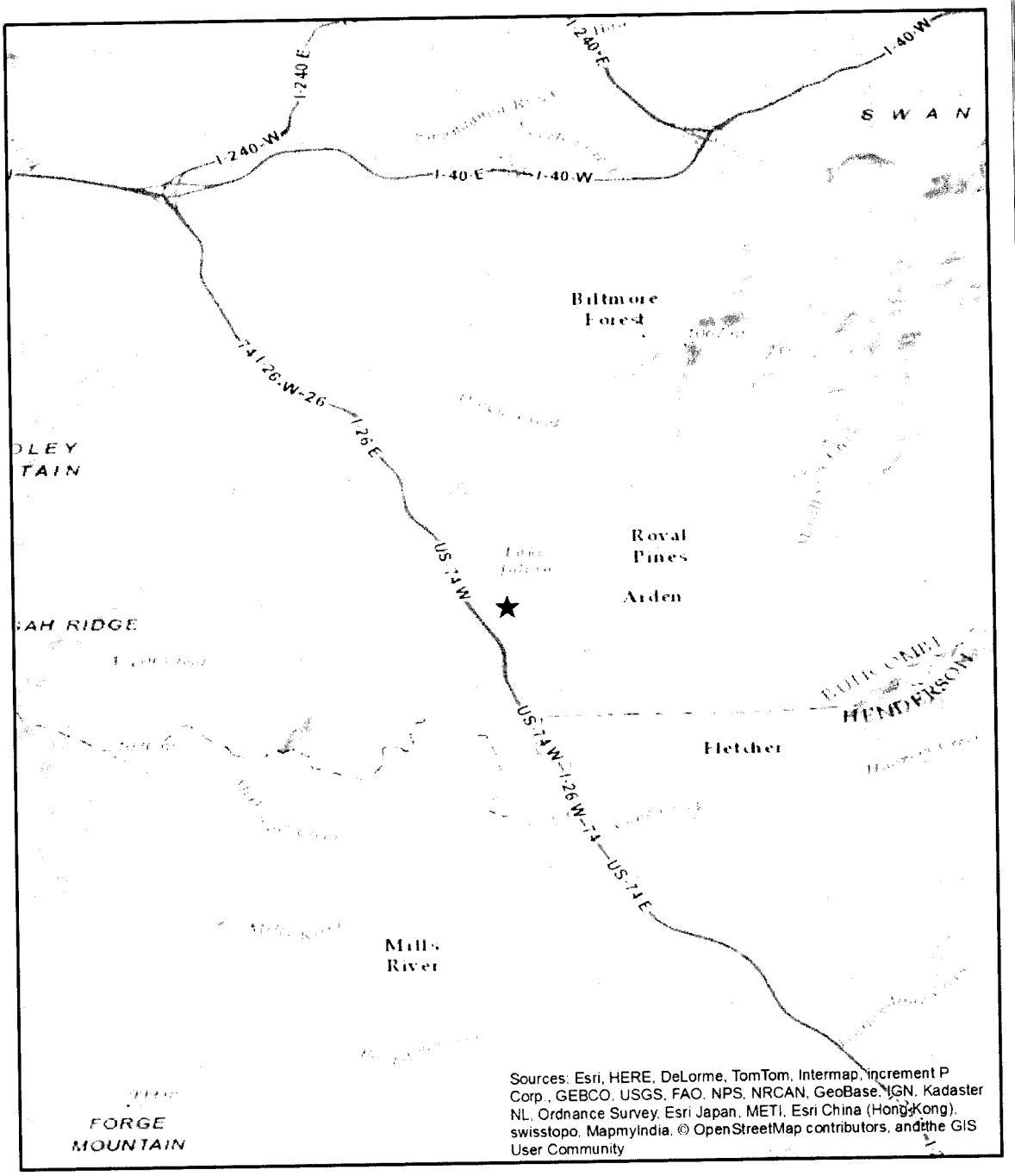

Figure 2-1
Duke Energy Progress, LLC
Asheville Steam Station
Site Location and Surrounding Topography

0 1.25 2.5 5 Kilometers

N

AECOM

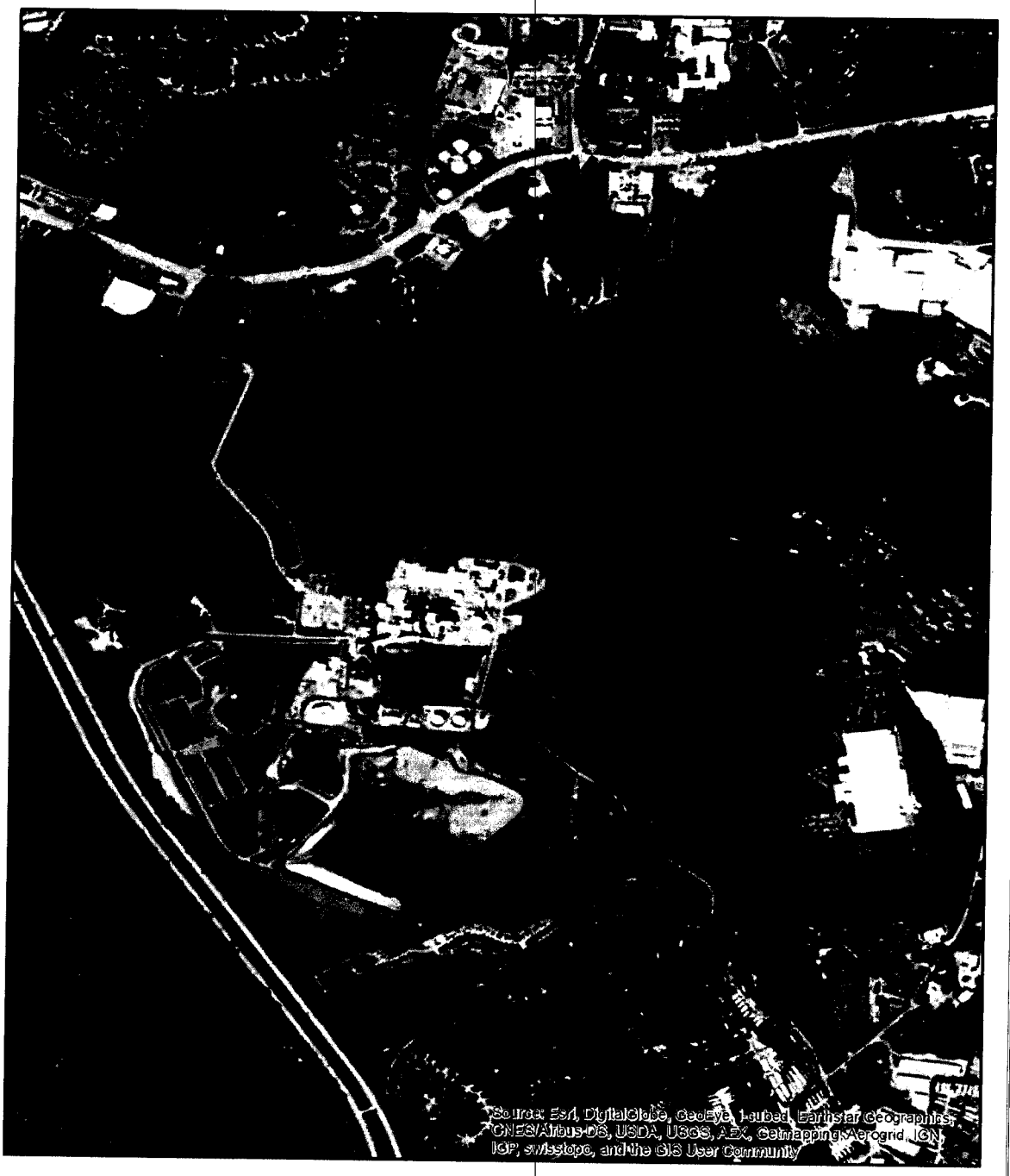

Figure 2-2
Duke Energy Progress, LLC
Asheville Steam Station
Site Aerial View

0 0.125 0.25 0.5 Kilometers

N

AECOM

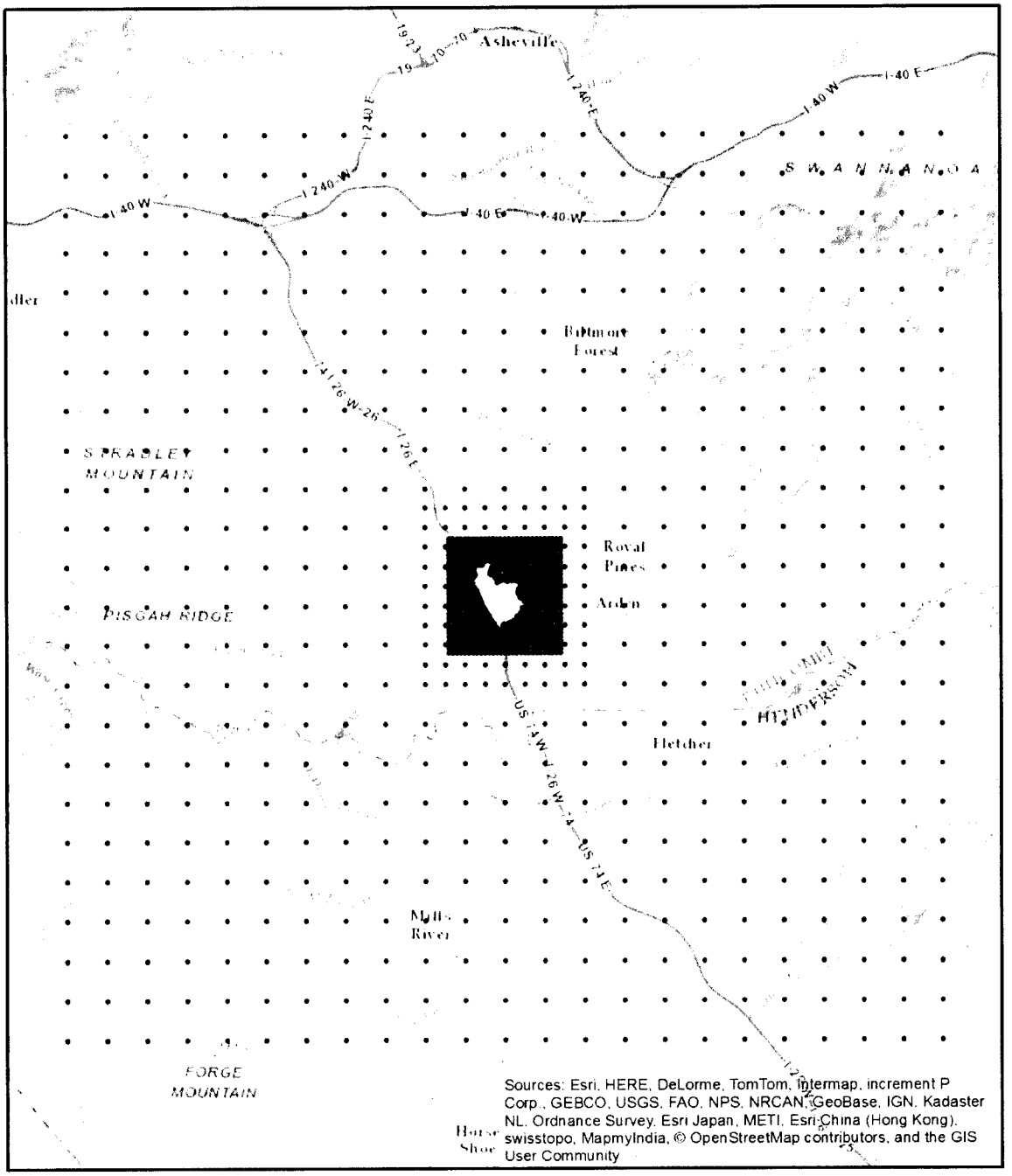

Figure 3-1
Duke Energy Progress, LLC
Asheville Steam Station
Modeling Receptor Grid

0 1.25 2.5 5 Kilometers

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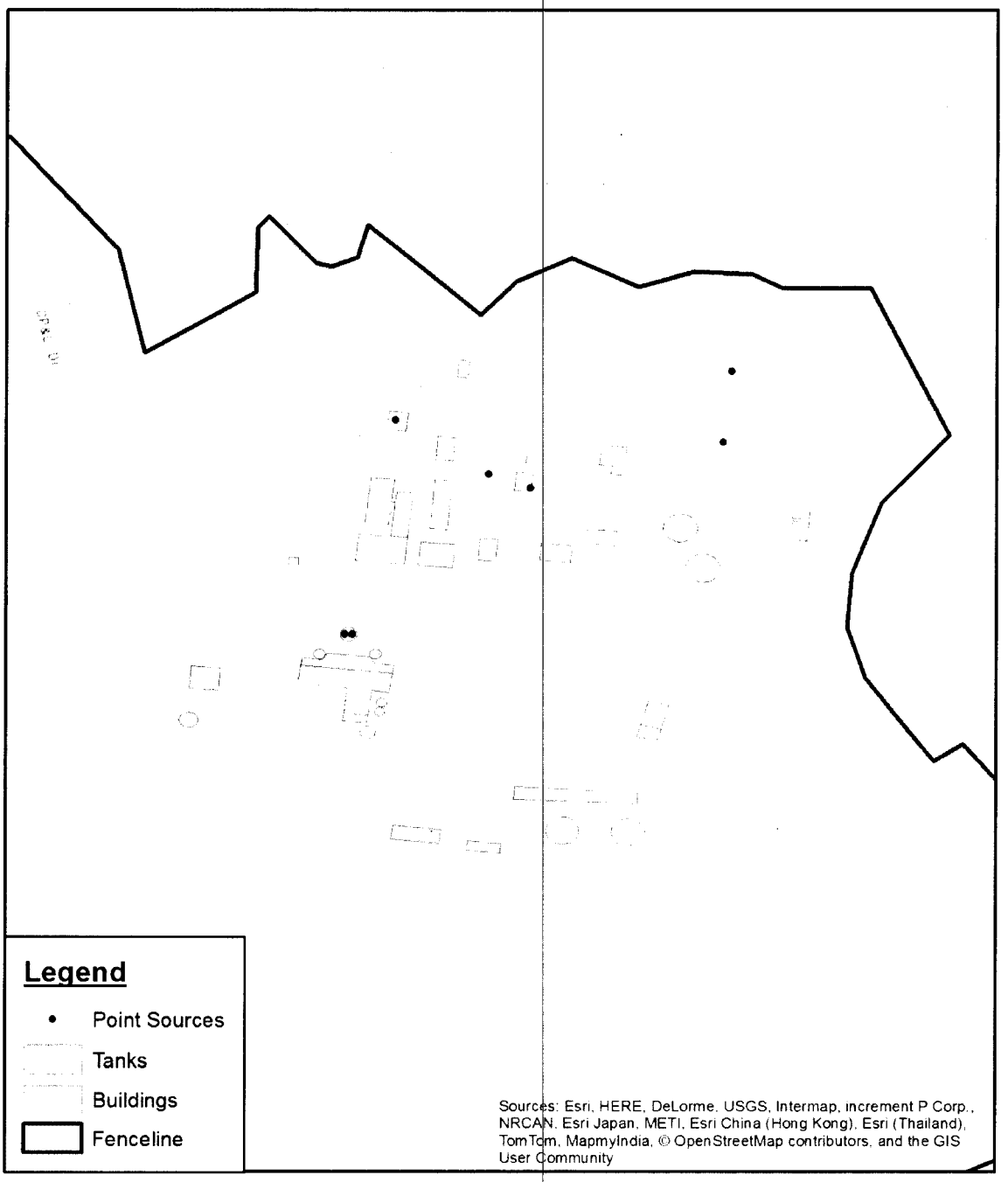

Figure 3-2
Duke Energy Progress, LLC
Asheville Steam Station
Site Emission Sources and Building Layout

0 110 220 Meters

N

AECOM

Table 3-1

Duke Energy Progress, LLC
Asheville Steam Station
Buncombe County

Modeling Building & Tank Parameters

Building Name	Base Elevation (m)	Tier Height (m)	Number of Corners
LW1	659.68	3.05	4
AB	661.66	4.57	8
CR	661.67	6.10	4
SP	661.53	15.24	4
GH	661.41	3.66	4
POS	660.45	3.66	4
OB	661.57	4.57	4
WS	661.62	5.49	4
DB	662.42	12.19	4
WWTP	659.91	12.19	4
2SCR	661.56	36.27	4
1ESP	661.61	14.59	4
2ESP	661.55	6.60	4
BC	661.58	9.14	6
CONTRM	661.39	7.62	8
FGD	661.46	24.38	12
EE	661.50	3.05	4
1SCR	661.53	36.20	4
CTA	661.27	4.57	4
CTW	661.54	12.19	4
OS	661.49	9.14	4
MOS	661.50	6.10	4
FU	661.94	12.19	4
FGD2	661.46	16.76	10
FGD3	661.46	9.14	8
DB2	661.53	9.14	4

Tank Name	Tank Description	Base Elevation (m)	Tank Height (m)	Tank Diameter (m)
WT2	Water Tank 2	662.11	16.76	26.0
WT1	Water Tank 1	662.06	16.76	26.0
TFO2	Turbine Fuel Oil Tank 2	661.65	14.63	25.0
TFO1	Turbine Fuel Oil Tank 1	661.74	14.63	25.0
Stack	Stack	661.53	99.06	13.0
U1A	Unit 1 Absorber	661.52	24.38	9.0
U2A	Unit 2 Absorber	661.51	24.38	9.0
AEDT	Absorber Emer Dump Tank	661.44	12.19	12.0
LST1	Limestone Slurry Tank 1	661.6	9.14	8.0
LST2	Limestone Slurry Tank 2	661.61	9.14	8.0

Table 3-2

Duke Energy Progress, LLC
Asheville Steam Station
Buncombe County

Modeling Source Parameters

Source ID	Source Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
U1	Unit 1 Boiler	359955.60	3926330.00	661.5	99.67	322	15.24	5.03
U2	Unit 2 Boiler	359961.31	3926329.96	661.5	99.67	322	15.24	5.03
SC_U1	Unit 1 Turbine	360247.00	3926567.00	662.1	34.90	810.93	49.91	5.49
SC_U2	Unit 2 Turbine	360240.00	3926501.00	662.0	34.90	810.93	49.91	5.49
GEN1	Emergency Generator 1	360095.65	3926461.94	661.6	3.05	769	0.01	0.15
PUMP1	Fire Pump Engine 1	359996.00	3926525.00	660.3	3.05	769	0.01	0.15
HEAT1	4.0 MMBtu NG Heater	360064.91	3926474.90	661.6	38.10	654	0.01	0.30

Table 3-3

Duke Energy Progress, LLC
Asheville Steam Station
Buncombe County

Modeling Source Parameters for Offsite Sources

Source ID	Source Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
OFF1	Buncombe County Landfill II EP-FLARE Flare Stack	352270.00	3954909.00	613.3	10.97	1144.26	19.40	0.30
OFF2	Buncombe County Landfill II EP-GENSET Genset stack	352270.00	3954909.00	613.3	6.10	743.15	15.78	0.61
OFF3	Buncombe County Landfill II EP-TUB GRINDER Tub Grinder engine	352270.00	3954909.00	613.3	3.05	699.82	18.29	0.20
OFF4	Blue Ridge Paper Products - Canton Mill EP- 5 lime kiln No. 5 Lime Kiln Stack	333004.00	3933809.00	787.6	63.09	342.04	9.85	1.52
OFF5	Blue Ridge Paper Products - Canton Mill EP-Emgy Gen Emergency Generators	333004.00	3933809.00	787.6	3.05	295.37	0.06	0.30
OFF6	Blue Ridge Paper Products - Canton Mill EP-Recovery 11 Recovery Boiler 11	333004.00	3933809.00	787.6	92.35	429.26	16.49	3.66
OFF7	Blue Ridge Paper Products - Canton Mill EP - PM No. 19b process heater on No. 19 PM	333004.00	3933809.00	787.6	20.12	499.82	0.31	0.46
OFF8	Blue Ridge Paper Products - Canton Mill EP-Big Bill/PG Big Bill/Peter G Common Stack	333004.00	3933809.00	787.6	71.48	473.71	10.06	4.79
OFF9	Blue Ridge Paper Products - Canton Mill EP-Recovery 10 Recovery Boiler 10	333004.00	3933809.00	787.6	61.87	422.04	15.39	3.66
OFF10	Blue Ridge Paper Products - Canton Mill EP-Riley Coal Riley Coal Stack	333004.00	3933809.00	787.6	45.72	495.37	18.24	2.74
OFF11	Blue Ridge Paper Products - Canton Mill EP- SDT 10 No. 10 Smelt Dis Tank	333004.00	3933809.00	787.6	61.87	354.82	8.69	1.22
OFF12	Blue Ridge Paper Products - Canton Mill EP - PM No. 19a process heater on No. 19 PM	333004.00	3933809.00	787.6	20.12	499.82	0.31	0.46
OFF13	Blue Ridge Paper Products - Canton Mill EP- SDT 12 No. 11 Smelt Dis Tank	333004.00	3933809.00	787.6	61.87	354.82	9.51	1.22
OFF14	Blue Ridge Paper Products - Canton Mill EP-No. 4 PB Stack on Boiler No. 4	333004.00	3933809.00	787.6	83.82	448.71	18.33	2.44
OFF15	Blue Ridge Paper Products - Canton Mill EP-BLOX - RTO BLOX RTO and Scrubber	333004.00	3933809.00	787.6	30.48	323.71	15.24	1.22
OFF16	Blue Ridge Paper Products - Canton Mill EP- 4 Lime Kiln No. 4 Lime Kiln Stack	333004.00	3933809.00	787.6	61.87	338.71	8.44	1.22
OFF17	Blue Ridge Paper Products - Canton Mill EP-Riley Bark Riley Bark Stack	333004.00	3933809.00	787.6	34.75	332.04	17.92	2.44
OFF18	Giles Chemical, A Division of Premier Magnesia, LLC I.1 boiler exhaust stack	319300.00	3929350.00	819.8	6.10	294.26	4.59	0.40
OFF19	Harrison Construction Division of APAC-Atlantic, Inc. ERP-2 Drum dryer stack	317811.00	3923676.00	906.3	9.75	389.26	24.11	1.05
OFF20	Holston Environmental Services, Inc. B1-1 Boiler 1 Stack	314207.00	3925296.00	894.7	7.92	463.71	6.10	0.52
OFF21	Oaks Unlimited, Inc. ERP-I-1 boiler stack	317250.00	3937953.00	794.3	4.57	477.59	11.28	3.66
OFF22	Oaks Unlimited, Inc. ERP-B-1 boiler stack	317250.00	3937953.00	794.3	9.14	477.59	15.85	1.12
OFF23	GE Lighting Solutions, LLC ES-3 #104 ES-3 (ID#104)	371805.00	3904510.00	661.0	6.71	449.82	5.85	0.27
OFF24	GE Lighting Solutions, LLC ES-3 #35 ES-3 (ID#35)	371805.00	3904510.00	661.0	9.45	449.82	4.97	0.30
OFF25	GE Lighting Solutions, LLC ES-3 #105 ES-3 (ID#105)	371805.00	3904510.00	661.0	6.71	449.82	5.85	0.30
OFF26	GE Lighting Solutions, LLC S-IA-46 IA-46 Stack	371805.00	3904510.00	661.0	10.06	533.15	9.97	0.46
OFF27	GE Lighting Solutions, LLC ES-1BR #101 Boiler 1BR stack (ID#101)	371805.00	3904510.00	661.0	10.67	533.15	9.97	0.61
OFF28	GE Lighting Solutions, LLC ES-3 #34 ES-3 (ID#34)	371805.00	3904510.00	661.0	9.45	291.48	8.14	1.07
OFF29	GE Lighting Solutions, LLC ES-3 #86 ES-3 (ID#86)	371805.00	3904510.00	661.0	0.91	344.26	13.59	0.61
OFF30	GE Lighting Solutions, LLC ES-3 #106 ES-3 (ID#106)	371805.00	3904510.00	661.0	10.97	344.26	1.37	0.58
OFF31	Cumberland Gravel & Sand Company - Green River Quarry ES-GEN 1	373307.00	3901710.00	578.0	4.10	727.59	29.32	0.25
OFF32	Blue Ridge Metals Corporation Roof #2 Furnace Area #2 Roof Vents	365000.00	3922100.00	633.1	7.32	294.26	0.31	1.22
OFF33	Blue Ridge Metals Corporation BOIL-02 #2 Boiler Stack	365000.00	3922100.00	633.1	6.10	477.59	6.10	0.41
OFF34	Blue Ridge Metals Corporation BOIL-01 #1 Boiler Stack	365000.00	3922100.00	633.1	8.23	477.59	6.10	0.41
OFF35	Meritor Heavy Vehicle Systems, LLC - Asheville IRP-1 Exempt Natural Gas Stack	363747.00	3913195.00	669.3	16.76	477.59	6.61	0.46
OFF36	Wilsonart LLC EP-BLR4 Boiler exhaust stack	365700.00	3922500.00	636.8	10.12	560.93	10.78	0.91
OFF37	Wilsonart LLC EP-BLR1 Boiler exhaust stack	365700.00	3922500.00	636.8	10.97	522.04	19.14	0.76
OFF38	Wilsonart LLC EP-BLR3 Boiler exhaust stack	365700.00	3922500.00	636.8	11.03	538.71	9.24	1.37
OFF39	Wilsonart LLC EP-ESP Electrostatic Precipitator Stack	365700.00	3922500.00	636.8	15.24	477.59	16.17	0.61
OFF40	Wilsonart LLC EP-EmGen Natural Gas-Fired Emergency Generator Vent	365700.00	3922500.00	636.8	3.05	394.26	9.14	0.30
OFF41	Wilsonart LLC EP-BLR2 Boiler exhaust stack	365700.00	3922500.00	636.8	11.58	522.04	18.32	0.76
OFF42	APAC-Atlantic, Inc. - Hendersonville stack 1 Exhaust Stack	369899.00	3914300.00	661.7	7.92	408.15	15.79	1.22
OFF43	Clement-Pappas NC, Inc. CB-3 Stack for HS-300-307	364837.00	3915085.00	635.2	14.02	460.37	3.83	0.61
OFF44	Clement-Pappas NC, Inc. CB-2 Stack for HS-300-295	364837.00	3915085.00	635.2	17.22	451.48	3.83	0.61
OFF45	Henderson County Hospital Corporation, Margaret R. Pardee Ho GEN	366600.00	3909301.00	669.1	6.10	699.82	14.41	0.20
OFF46	Henderson County Hospital Corporation, Margaret R. Pardee Ho Blr-2A Boiler Flue	366600.00	3909301.00	669.1	7.62	422.04	12.95	0.61
OFF47	Kimberly-Clark Corp., Berkeley Mills EP-I-2-2 TABBI Two Base Machine	366612.00	3912190.00	633.5	1.83	347.04	20.70	0.30
OFF48	Kimberly-Clark Corp., Berkeley Mills EP-I-2-1 TABBI One Base Machine	366612.00	3912190.00	633.5	1.83	358.15	20.70	0.30
OFF49	Kimberly-Clark Corp., Berkeley Mills EP-U-7 Boiler Stack	366612.00	3912190.00	633.5	7.47	393.71	10.97	0.30
OFF50	Kimberly-Clark Corp., Berkeley Mills EP-I-4 BK2 TAB Exhaust	366612.00	3912190.00	633.5	2.74	338.71	10.32	1.22
OFF51	Kyocera Industrial Ceramics Corporation kiln kiln	365038.00	3914990.00	642.1	7.62	422.04	8.41	0.30
OFF52	Printpack, Inc. EP-I03 Oxidizer Stack	365065.00	3914510.00	655.7	12.19	458.15	16.62	1.34
OFF53	Printpack, Inc. EP-I02 Oxidizer Stack	365065.00	3914510.00	655.7	9.14	475.93	9.73	1.68
OFF54	Ralph Rogers and Company - Hendersonville Plant EP1 Baghouse Stack	366249.00	3913250.00	642.3	8.08	355.37	25.79	0.99

Table 3-3 continued

Duke Energy Progress, LLC
Asheville Steam Station
Buncombe County

Modeling Source Parameters for Offsite Sources

Source ID	Source Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
OFF55	Selee Corporation ERP-NG Natural Gas Dryers	369000.00	3906700.00	641.0	3.05	295.37	0.06	0.30
OFF56	Selee Corporation ERP-13007.1 HTP Tunnel Kiln Stack	369000.00	3906700.00	641.0	8.14	754.82	0.03	0.58
OFF57	Selee Corporation 24003.1 Pulse Sauder Kiln stack	369000.00	3906700.00	641.0	9.14	297.04	0.03	0.51
OFF58	Selee Corporation ERP-22044.1 SiC RH Kiln	369000.00	3906700.00	641.0	12.17	588.71	4.42	0.61
OFF59	Selee Corporation ERP-56021 Meid Kiln Stack	369000.00	3906700.00	641.0	8.35	588.71	0.03	0.34
OFF60	Selee Corporation ERP-13001.1 Regenerative Thermal Oxidizer	369000.00	3906700.00	641.0	12.07	561.48	13.72	0.48
OFF61	Selee Corporation 22007.1 Sauder Kiln Stack	369000.00	3906700.00	641.0	9.14	297.04	0.03	0.51
OFF62	Selee Corporation ERP-56022.1 Eisenmann Furnace Stack	369000.00	3906700.00	641.0	9.33	754.82	0.03	0.36
OFF63	Vulcan Construction Materials, LLC - Hendersonville Quarry G-1 diesel engine	368308.00	3914200.00	683.9	1.83	708.15	16.02	0.13
OFF64	Hendersonville Water Treatment Plant ERP-2 engin exhaust	359746.00	3915695.00	631.7	5.18	755.37	55.42	0.41
OFF65	UPM Raflatac, Inc ERP-02 Natural Gas Sources	359305.00	3920848.00	642.9	3.05	295.37	0.06	0.30
OFF66	Van Wingerden International, Inc. - Haywood and Glasshouse HR generator 300kw	358392.00	3916340.00	637.6	2.44	755.37	103.63	0.12
OFF67	Van Wingerden International, Inc. - Haywood and Glasshouse GH generator 200 kw	358392.00	3916340.00	637.6	2.44	868.15	132.59	0.09
OFF68	McCrary Stone Service, Inc. - Crushing & Screening Plant ERP 4 Diesel Engine	350289.00	3961541.00	594.8	5.12	488.71	17.39	0.23
OFF69	Columbia Plywood Corporation - Columbia Carolina Division ERP-1 Veneer Roller Dryer Stack #1	399600.00	3946700.00	397.6	12.80	449.82	5.49	0.61
OFF70	Columbia Plywood Corporation - Columbia Carolina Division ERP-2 Veneer Roller Dryer Stack #2	399600.00	3946700.00	397.6	12.80	449.82	5.49	0.61
OFF71	Columbia Plywood Corporation - Columbia Carolina Division ERP-4 Veneer Roller Dryer Stack #4	399600.00	3946700.00	397.6	12.80	449.82	5.49	0.61
OFF72	Columbia Plywood Corporation - Columbia Carolina Division ERP-3 Veneer Roller Dryer Stack #3	399600.00	3946700.00	397.6	12.80	449.82	5.49	0.61
OFF73	olumbia Plywood Corporation - Columbia Carolina Division ERP-13 Tub Grinder Diesel Engine Sta	399600.00	3946700.00	397.6	0.98	713.71	46.58	0.16
OFF74	Columbia Plywood Corporation - Columbia Carolina Division ERP-9 Boiler 3 Multiclone	399600.00	3946700.00	397.6	9.75	477.59	24.38	0.58
OFF75	Ethan Allen Operations, Inc. - Pine Valley Division B1 wood boiler stack	394109.00	3944000.00	425.6	19.20	449.82	9.71	1.24
OFF76	Ethan Allen Operations, Inc. - Pine Valley Division B2 fuel oil boiler stack	394109.00	3944000.00	425.6	16.15	505.37	5.72	0.71
OFF77	IAC Old Fort, LLC ERP- NGO Natural gas fired oven stack	394680.00	3944592.00	426.0	8.53	310.93	0.07	3.66
~~OFF78~~	~~Jason Incorporated - Janesville Acoustics - Plant 80 ESMA1 NATURAL GAS FIRED DRYER~~	~~393800.00~~	~~3943500.00~~	~~426.4~~	~~9.14~~	~~427.59~~	~~17.62~~	~~0.40~~
OFF79	Public Service Company of NC, Inc. - Mill Spring Compressor ES-1	391096.00	3908322.00	319.8	13.41	588.71	4.14	1.14
OFF80	Carolina Yarn Processors, Divis. of Fendrich Industries, Inc ERP-1 No. 6 boiler stack	387443.00	3897679.00	294.6	14.02	505.37	0.91	0.91
OFF81	D & S Asphalt Materials, Inc. EP-1 Asphalt Plant Main Stack	398247.00	3903306.00	308.4	8.84	399.82	11.28	0.94
OFF82	APAC-Atlantic, Inc. - Rutherfordton Plant ST 417 baghouse stack	407962.00	3913890.00	281.7	8.79	374.26	20.32	0.79
OFF83	Vulcan Construction Materials, LLC - Penrose Quarry LG Light Generator	350613.00	3904660.00	659.3	1.52	366.48	3.05	0.10
OFF84	Vulcan Construction Materials, LLC - Penrose Quarry WG Welding Generator	350613.00	3904660.00	659.3	1.52	366.48	3.05	0.10
OFF85	Yancey Stone, Inc. - Low Gap Quarry G-1 Diesel engine exhaust	382507.00	3970040.00	865.8	3.05	366.48	152.40	0.10
OFF86	BorgWarner Turbo Systems EP011	357160.20	3927276.00	659.0	10.21	637.59	11.25	0.15
OFF87	BorgWarner Turbo Systems EP012	357160.08	3927268.24	659.0	10.21	637.59	11.25	0.15
OFF88	BorgWarner Turbo Systems EP013	357159.95	3927260.48	659.0	10.21	637.59	11.25	0.15
OFF89	BorgWarner Turbo Systems EP014	357159.83	3927252.71	659.0	10.21	637.59	11.25	0.15
OFF90	BorgWarner Turbo Systems EP113-115	357113.51	3927193.54	658.9	9.75	329.26	10.36	0.30
OFF91	BorgWarner Turbo Systems EP008	356939.19	3927325.02	661.1	5.49	533.15	5.18	0.27
OFF92	Flint Group EP-153	361936.88	3925484.77	692.0	10.21	449.82	8.41	0.76
OFF93	Flint Group EP-154	361936.88	3925484.77	692.0	10.21	449.82	8.41	0.76
OFF94	Flint Group EP-14	362017.24	3925421.62	692.4	10.52	449.82	20.06	0.30
OFF95	Flint Group EP-15	362017.24	3925421.62	692.4	10.52	449.82	20.06	0.30
OFF96	Flint Group EP-16	362017.24	3925421.62	692.4	10.52	449.82	20.06	0.30
OFF97	Flint Group EP-17	362017.24	3925421.62	692.4	10.52	449.82	20.06	0.30
OFF98	Amcor Flexibles, Inc EPI23	362506.57	3929717.40	709.7	10.67	477.59	18.29	1.28
OFF99	Arvato Digital Services, LLC GEN	357353.53	3959401.74	631.3	6.10	755.37	91.44	0.18
OFF100	Arvato Digital Services, LLC BOIL	357353.53	3959401.74	631.3	6.10	449.82	6.10	0.30
OFF101	Aprotech Powertrain EP109-112A-112B	356220.22	3941260.61	671.1	9.45	446.48	11.68	0.40
OFF102	APAC - Atlantic - Enka BH stack	348512.60	3934313.86	641.4	10.97	388.71	22.72	1.18
OFF103	Mission Hospital ES-1-4 stack	359620.05	3937933.45	667.4	9.08	421.48	15.85	0.61
OFF104	Mission Hospital ES-9-11 stack	359661.38	3938544.12	680.5	10.97	463.71	9.60	1.37
OFF105	Mission Hospital ES-5-8,15 stack	359662.77	3937940.55	669.3	9.14	755.37	0.00	0.30
OFF106	Mission Hospital ES-12-14 stack	359638.80	3938606.61	672.0	9.14	755.37	0.00	0.30
OFF107	Cremation Services of WNC ES-1 stack	342828.51	3934944.66	701.8	5.49	755.37	4.88	0.52
OFF108	City of Asheville Water Resources Dept. - North Fork WTP ES-1 stack	378107.06	3947395.45	756.8	6.71	820.93	48.77	0.36

Table 3-3 continued

Duke Energy Progress, LLC
Asheville Steam Station
Buncombe County

Modeling Source Parameters for Offsite Sources

Source ID	Source Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
OFF109	Asheville Area Alternative Funeral & Cremation Services ST01	357108.83	3941639.08	600.0	6.10	866.48	0.00	0.46
OFF110	Milkco ES-1-3 stack	353666.70	3938603.84	679.8	9.14	422.04	0.01	0.46
OFF111	Milkco G1 stack	353611.19	3938645.80	677.4	4.88	738.71	0.00	0.46
OFF112	U.S. Department of Veterans Affairs Medical Center ES-1-3 stack old	365687.64	3939327.81	672.7	13.41	465.37	0.00	0.61
OFF113	U.S. Department of Veterans Affairs Medical Center ES-4 stack old	365692.18	3939328.85	672.5	9.14	763.71	0.00	0.30
OFF114	U.S. Department of Veterans Affairs Medical Center ES-5 stack	365530.99	3939396.73	680.6	4.57	644.26	0.00	0.30
OFF115	U.S. Department of Veterans Affairs Medical Center ES-6 stack	365687.22	3939300.08	672.7	9.14	763.71	0.00	0.30
OFF116	APAC Atlantic - Black Mountain BH stack	376392.91	3941306.35	684.6	7.62	384.26	23.18	0.95
OFF117	City of Asheville Water Resources Dept. - DeBruhl WTP ES-1 stack	373502.16	3945085.62	790.3	1.80	713.71	74.98	0.15
OFF118	Western Animal Disease Diagnostic Laboratory ES-1	360749.65	3921744.35	646.9	12.80	1122.59	5.49	0.61
OFF119	Metropolitan Sewerage District of Buncombe County EG-1-3 stack	355299.03	3945684.71	592.4	3.96	749.82	0.00	0.25
OFF120	Metropolitan Sewerage District of Buncombe County TC-1 stack	355382.32	3945794.31	592.9	28.96	302.59	5.09	0.91
OFF121	Asheville Mortuary Services ES-1	360702.87	3937388.37	608.2	4.88	1170.93	17.92	0.30
OFF122	Asheville Landfill Gas EP-01	355230.15	3947017.25	638.6	7.62	1144.26	17.28	0.20
OFF123	Forever Faithful Pet Memorial Gardens & Cremation Center ST-01	358280.32	3938957.60	612.1	5.49	977.59	5.18	0.46
OFF124	Riverside Stump Dump GR1-3	357023.03	3941374.18	604.7	3.05	644.26	0.00	0.30
OFF125	Anders-Rice Funeral Home ES-1	354321.95	3938544.29	668.6	6.10	755.37	0.00	0.30
OFF126	Enerdyne Properties, LLC CBP	355175.47	3946995.95	635.1	3.35	715.93	2.20	0.30
OFF127	Asheville Pet Crematory ES-1 stack	373410.73	3944387.99	760.3	4.57	699.82	0.00	0.25
OFF128	City of Asheville Water Resources Dept. - East Asheville Pumping Station ES-1 stack	368403.98	3942053.12	654.7	3.05	699.82	0.00	0.15
OFF129	Cremation Services of WNC - Tunnel Road ES-1 stack	363586.03	3939207.71	669.8	6.10	644.26	0.00	0.30
OFF130	Mission Hospital - 980 Hendersonville Road ES-A-B stack	361284.17	3933962.18	679.2	8.53	763.71	41.15	0.30
OFF131	APAC - Atlantic - Weaverville BH stack	354309.72	3950527.28	623.1	7.62	380.37	30.48	0.89
OFF132	Basofil Fibers EP-SP1	350374.65	3934493.29	627.0	18.29	382.04	4.82	0.51
OFF133	Bonar F1-2	350479.73	3934269.62	626.9	16.15	463.71	4.45	0.70
OFF134	Bonar ESPB-1-2	350479.73	3934269.62	626.9	9.14	644.26	0.00	0.61
OFF135	Forest Lawn Memorial Park ES-1 stack	349096.38	3934514.79	651.6	7.32	1005.37	7.77	0.36
OFF136	Morris Funeral Home (Maple Spring Crematory) ES-1	359158.62	3941772.87	656.4	4.88	602.59	8.23	0.76
OFF137	Nonwovens of America, Inc. BS0102	370431.97	3941775.99	659.7	9.45	355.37	11.80	0.76
OFF138	Charter Communications - Asheville ES-1 stack	361810.70	3930890.82	697.5	3.66	774.82	92.35	0.26
OFF139	JPS Composite Materials Corp Stack#23 (Boiler #2)	363931.00	3876909.00	297.7	7.92	500.37	0.00	0.61
OFF140	JPS Composite Materials Corp Stack#35 (Carmelizing Oven)	363858.50	3876969.37	300.0	19.81	422.04	15.39	0.56
OFF141	Milliken - Gayley SPB11	357206.39	3876737.41	300.8	11.58	422.04	7.62	0.53
OFF142	Milliken - Gayley SSB12	357211.39	3876733.41	300.9	14.63	533.15	7.89	0.98
OFF143	Milliken - Gayley WESP1	357058.39	3876760.41	293.8	12.50	327.59	14.36	0.91
OFF144	Milliken - Gayley WESPA	357121.39	3876842.41	295.5	12.80	327.59	15.18	1.13
OFF145	Milliken - Enterprise B01S01	357680.40	3876674.40	292.1	16.15	505.37	1.95	2.44
OFF146	Milliken - Enterprise ESP01	357554.40	3876768.41	296.1	11.89	380.37	10.67	0.91
OFF147	Milliken - Enterprise ESP02	357456.39	3876689.41	300.1	15.85	363.71	11.49	0.69
OFF148	Milliken - Enterprise ESP03	357532.39	3876638.41	296.2	15.24	319.26	10.42	1.14
OFF149	Milliken - Enterprise PR03S01	357561.40	3876704.41	297.4	10.97	365.93	6.71	0.61
OFF150	Milliken - Enterprise SSB05	357381.39	3876682.41	300.4	13.11	533.15	11.89	0.91
OFF151	Karastan-Bigelow(mohawk carpets) boiler 1	393903.00	3890702.00	300.9	22.86	505.37	3.09	1.07
OFF152	Karastan-Bigelow(mohawk carpets) boiler 2	393903.00	3890702.00	300.9	22.86	505.37	3.09	1.07
OFF153	Bommer Industries BS1	392977.00	3891119.00	297.6	10.67	422.04	0.00	0.30
OFF154	Bommer Industries BS2	392977.00	3891119.00	297.6	10.67	422.04	0.00	0.30
OFF155	SC Elastic Shamrock Boiler 1	391918.00	3892894.00	301.4	9.45	510.93	8.26	0.30
OFF156	SC Elastic Shamrock Boiler 2	391918.00	3892894.00	301.4	11.89	510.93	9.85	0.30
OFF157	South Carolina Elastic - Foxy Rd Plant	392848.00	3891310.00	301.6	9.45	477.59	9.14	0.30

Table 3-4

Duke Energy Progress, LLC
Asheville Steam Station
Buncombe County

Ambient Background Concentration

Averaging Period	Monitor Description	SO_2 Concentration ($\mu g/m^3$)
3-hour	Bryson City (Swain County), NC	2.9
24-hour		2.9
Annual		0.3

Table 3-5

Duke Energy Progress, LLC
Asheville Steam Station
Buncombe County

Potential Emission Rates

Source ID	Source Description	Maximum Capacity	Emission Factor	Hourly Rate (lb/hr)	Annual Rate (lb/yr)	Annual Rate (tpy)	Comments
U1	Unit 1 Boiler	2,155 MMBtu/hr	2.3 lb/MMBtu	4,957	13,266,000	6,633	Hourly rate based on permit condition 2.1: 2.3 lb/MMBtu (WNCRAQA Code 4.0516). Annual based on permit condition Section 4 allowance of 6,633 tpy per 40 CFR 73.
U2	Unit 2 Boiler	2,102 MMBtu/hr	2.3 lb/MMBtu	4,835	10,542,000	5,271	Hourly rate based on permit condition 2.1: 2.3 lb/MMBtu (WNCRAQA Code 4.0516). Annual based on permit condition Section 4 allowance of 5,271 tpy per 40 CFR 73.
SC_U1	Unit 1 Turbine	1,929 MMBtu/hr	5.5E-02 lb/MMBtu	97.41	40,000	20	Hourly rate based on permit condition 2.2: 0.05 percent by weight sulfur content of No. 2 fuel oil (WNCRAQA Code 4.0530); AP-42 3.1-2a and 0.05% S. Annual rate based on permit condition 2.2: 40 tons SO2 per consecutive 12-month period (WNCRAQA Code 4.0530).
SC_U2	Unit 2 Turbine	1,929 MMBtu/hr	5.5E-02 lb/MMBtu	97.41	40,000	20	
GEN1	Emergency Generator 1	380 hp	2.05E-03 lb/hp-hr	0.78	390	0.19	AP-42 3.3-1; 500 hr/yr
PUMP1	Fire Pump Engine 1	370 hp	2.05E-03 lb/hp-hr	0.76	379	0.19	AP-42 3.3-1; 500 hr/yr
HEAT1	4.0 MMBtu NG Heater	4 MMBtu/hr	5.88E-04 lb/MMBtu	0.002	21	0.01	AP-42 1.4-2; HHV=1020; 8760 hr/yr

Table 3-6

Duke Energy Progress, LLC
Asheville Steam Station
Buncombe County

Alternative Short Term Emission Rates

Source ID	Source Description	Maximum Capacity	Emission Factor	Hourly Rate (lb/hr)	Annual Rate (lb/yr)	Annual Rate (tpy)	Comments
U1	Unit 1 Boiler	2,155 MMBtu/hr	N/A	1,514	13,266,000	6,633	Acid Rain Allowance; 8760 hr/yr
U2	Unit 2 Boiler	2,102 MMBtu/hr		1,203	10,542,000	5,271	Acid Rain Allowance; 8760 hr/yr
U1	Unit 1 Boiler	86 ton/hr	171 lb/ton	1,474	12,912,415	6,456	AP-42 1.1-3 and 4.5% S with 90% Control Applied; 8760 hr/yr; HHV=12,500 Btu/lb
U2	Unit 2 Boiler	84 ton/hr	171 lb/ton	1,438	12,594,848	6,297	AP-42 1.1-3 and 4.5% S with 90% Control Applied; 8760 hr/yr; HHV=12,500 Btu/lb

Table 3-7

Duke Energy Progress, LLC
Asheville Steam Station
Buncombe County

Optimized Short Term Emission Rates

Source ID	Source Description	Maximum Capacity (MMBtu/hr)	Emission Factor (lb/MMBtu)	Hourly Rate (lb/hr)	Annual Rate (lb/yr)	Annual Rate (tpy)	Comments
U1	Unit 1 Boiler	2155	5.20E-01	1,120.0	9,811,200	4,906	Hourly rate optimized in the model.
U2	Unit 2 Boiler	2102	5.33E-01	1,120.0	9,811,200	4,906	Hourly rate optimized in the model.

Table 3-8

Duke Energy Progress, LLC

Asheville Steam Station
Buncombe County

Modeling Results

Averaging Period	Year	Maximum Concentration[a] ($\mu g/m^3$)	Background Concentration[b] ($\mu g/m^3$)	Max Facility Plus Background Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS (%)
3-hour	2010	1,108.9	2.9	1,111.8	1,309	85%
24-hour	2009	345.2	2.9	348.1	365	95%
Annual	2010	50.6	0.3	50.9	80	64%

Notes:
[a] 3-hour & 24-hour concentration estimates represent the highest-second high values. Annual concentration estimates represent the annual mean values.
[b] Background concentrations are taken from the Swain County monitor.

Appendix A

Modeling Protocol

AIR DISPERSION MODELING PROTOCOL

RETROACTIVE SO_2 MODELING ANALYSIS

Asheville Steam Station
Permit No. 11-628-10D
Facility ID No. 11-628
Arden, North Carolina

Prepared for:

DUKE ENERGY

Duke Energy Progress, LLC
410 S. Wilmington Street
Raleigh, NC 27601

Prepared by:

AECOM

AECOM Technical Services of North Carolina, Inc.
1600 Perimeter Park Drive, Suite 400
Morrisville, NC 27560

January 2016

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1.0 INTRODUCTION

Duke Energy Progress, LLC operates the Asheville Steam Station (Asheville Station), located in Buncombe County, North Carolina. The Asheville Station comprises 2 coal-fired boilers (Units 1 and 2), and 2 simple cycle natural gas and fuel oil turbines. On May 1, 2003, the facility submitted an air permit application for the installation of Flue Gas Desulphurization Systems for the reduction of SO_2, and SCR systems for the reduction of NO_x emissions on Asheville Units 1 and 2 to meet the Clean Smokestacks Bill requirements. Criteria pollutant modeling was not required or submitted with the application. The facility's Title V permit is currently under review and the Western North Carolina Regional Air Quality Agency (WNCRAQA) has requested Duke provide a retroactive SO_2 modeling analysis as part of the renewal process. Duke Energy has agreed to submit a modeling analysis to demonstrate compliance with the 3-hour, 24-hour, and annual SO_2 National Ambient Air Quality Standards (NAAQS) in place at the time the scrubbers were installed.

Should modeled predicted ambient concentrations for any averaging period be above the standard, then a new emission limit will be determined. The new emission limit (mass-based) will be based on a final predicted concentration not exceeding 95% of the standard. Duke Energy Progress has retained AECOM Technical Services to conduct the atmospheric dispersion modeling analysis for SO_2.

This modeling protocol discusses the important modeling issues related to conducting a refined modeling analysis for the Asheville Station and other nearby sources within 50 kilometers (km) of the facility. In addition to information obtained during phone calls and emails, the following guidance was used to develop this modeling protocol:

United States Environmental Protection Agency
40 CFR Part 51 Guideline on Air Quality Models

United States Environmental Protection Agency
New Source Review Workshop Manual, Prevention of Significant Deterioration and Nonattainment Area Permitting (Draft)

North Carolina Division of Air Quality
North Carolina PSD Modeling Guidance

2.0 MODELING ENVIRONMENT

2.1 Site Location

The Asheville Station is located in Buncombe County. The Asheville Station site is located approximately 13.88 kilometers (km) south of Asheville, North Carolina. The approximate UTM coordinates are Zone 17, 359.973 km east and 3,926.070 km north at an elevation of approximately 2,165 feet above mean sea level. The largest city near the site is Asheville, North Carolina. The Asheville Station is located in the Mountain region of North Carolina and the terrain surrounding the site can be considered mountainous. Figure 2-1 shows the site location and surrounding topography and Figure 2-2 is an aerial view of the facility.

2.2 Attainment Status of Area

The current Section 107 attainment status designations for areas within the state of North Carolina are summarized in 40 CFR 81.334. Buncombe County is classified as "better than national standards" for total suspended particulates (TSP, also referred to as Particulate Matter, PM, which includes particulate matter less than 10 microns, PM_{10}) and for sulfur dioxide (SO_2). Buncombe County is designated as "unclassifiable/attainment" for carbon monoxide (CO), $PM_{2.5}$, lead, ozone, and the 1-hour standard for nitrogen dioxide (NO_2). Buncombe County is designated as "cannot be classified or better than national standards" for the annual NO_2 standard.

3.0 MODELING METHODOLOGY

3.1 Model Selection

The modeling analysis will be performed using the most current version of the EPA AERMOD model (version 15181). Currently, AERMOD is the preferred computer dispersion model for conducting refined dispersion modeling. The AERMOD model will be used to model SO_2 from the Asheville Station, and nearby sources, to predict maximum ambient concentrations in the near field (within 50 km).

The AERMOD preprocessors AERMAP (version 11103) and BPIP-Prime (version 04274) will also be used. BPIP-Prime will be used to calculate building downwash, and AERMAP will be used to characterize the terrain.

3.2 Meteorological Data

The Asheville Station is located in Arden, North Carolina approximately 14 kilometers south of Asheville in an area of complex terrain. Meteorological data for this area is not available for download on the NC DAQ website. NC DAQ does maintain meteorological data consisting of five years of surface and upper air data obtained from the Asheville Regional Airport processed and ready for AERMOD use, where appropriate. This data set is determined to be appropriate for the Asheville Station. The Asheville Station is located approximately 2 kilometers from the Asheville Regional Airport. Both the Asheville Station and the airport are located in the same valley of the Blue Ridge Mountains at approximately the same elevation. The land use surrounding the Asheville Station and the airport are similar due to the close proximity. It is for these reasons that use of the Asheville meteorological data is justified for use in this modeling exercise.

The five-year meteorological data set (2008-2012) of Asheville Regional Airport surface meteorological data and five years (2008-2012) of mixing height data derived from upper-air sounding data recorded at the Piedmont Triad International Airport were used in the modeling analysis.

The meteorological data set consists of 8,760 (8,784 for 2008 and 2012) hourly observations of the following parameters:

- Wind Speed,
- Wind Direction,
- Ambient Temperature,
- Atmospheric Stability, and
- Mixing Heights.

3.3 Coordinate System

All modeling coordinates will be input into the model using the Universal Transverse Mercator (UTM) system (Zone 17) with the NAD83 datum. This includes all source, building, and receptor locations.

3.4 Receptor Placement

The dispersion modeling receptor grids will be developed following procedures outlined in the New Source Review Workshop Manual (October 1990) and the North Carolina PSD Modeling Guidance (January 2012). A detailed discrete receptor grid system will be created to assess air quality impacts in all directions from the Asheville Station to a distance of up to 10 km from the property boundary.

Discrete receptors will be placed along the ambient air boundary at 50-meter intervals. A grid using 100-meter spacing will be used from the property line out to a distance of approximately 500 meters and a grid using 500-meter spacing will be used from 500 m to 1,000 m. The remaining grid from 1,000 m to approximately 10,000 m will use 1,000-meter grid spacing.

Receptor elevations will be determined using the current version of the AERMAP processor. National Elevation Data (NED) will be downloaded from the National Map Seamless Server.

3.5 Good Engineering Practice Stack Height Analysis

A Good Engineering Practice (GEP) stack height analysis will be conducted to demonstrate compliance with stack height regulations (40 CFR Part 51) and to determine the impacts to the sources by building wake and downwash effects. The GEP analysis will be conducted using the procedures outlined in the EPA documents *Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height Regulations) Revised* (EPA-450/4-80-023R) and the *User's Guide to the Building Profile Input Program*. The latest version of the Building Profile Input Program (BPIP) with PRIME algorithms will be used to determine calculated GEP stack heights and to develop direction-specific building dimensions for use in the dispersion model.

3.6 Facility Emissions and Source Parameters

Maximum hourly and annual potential to emit (PTE) emission rates for SO_2 will be used in the NAAQS modeling analysis. Source parameters for all sources will be taken from recent modeling performed for the facility. Should modeled predicted ambient concentrations for any averaging period be above the standard, then a new emission limit will be determined. The new emission limit will be based on a final predicted concentration not exceeding 95% of the standard.

3.7 Non-Default Modeling Options

Modeling will be performed using the regulatory default modeling options for all averaging times.

3.8 Methodology

Western NC Regional Air Quality Agency (WNCRAQA) has requested a NAAQS analysis for 3-hour, 24-hour, and annual average SO_2. Therefore, a refined modeling analysis will be performed to compare modeled concentrations against the NAAQS presented in Table 3-1.

Table 3-1. SO_2 NAAQS

Pollutant	Averaging Period	NAAQS µg/m³ (ppb)	Form of NAAQS
SO_2	3-hour	1309 (500)	Not to be exceeded more than once per year
	24-hour	365 (140)	Not to be exceeded more than once per year
	Annual	80 (30)	Annual arithmetic mean

3.8.1 Offsite Inventory

The modeling analysis will incorporate emissions from the Asheville facility, as well as for existing off-site sources located within 50 km of the facility. The offsite inventory will be developed based on the permitted emissions inventories in the NCDAQ, WNCRAQA, and South Carolina Department of Health and Environmental Control (SCDHEC) databases.

3.8.2 NAAQS Analysis

A modeling analysis will be performed for facility-wide emission and major off-property emission sources within 50 km of the facility. The modeling results will be added to background concentrations and then compared to the applicable NAAQS. For 3-hour and 24-hour SO_2, the high-second high (H2H) value for each of the five years will be used in the comparison to the NAAQS, while the annual average for each of the five years will be compared to the annual NAAQS.

3.8.3 Background Air Quality Data

Background ambient concentrations, calculated in the form of the NAAQS, will be added to the maximum predicted concentrations from all sources modeled from the facility and off-site inventory at the worst-case receptors to determine a conservative worst-case air quality impact. Background air quality concentrations will be provided by NCDAQ.

4.0 MODELING REPORT

A modeling report will be prepared and will include the following information:

- Overview of the project,
- A diagram of facility and off-site sources,
- A table of facility building dimensions,
- A table of facility and off-site source parameters,
- A diagram showing the ambient air boundary,
- A diagram showing receptor locations,
- Discussion of model and preprocessing programs used,
- Discussion of meteorological data used,
- Discussion of receptor locations and elevations,
- Emission rates and calculations showing how the emission rates were derived, and
- A table summarizing the modeling results, comparing them to the appropriate standards.

Figures

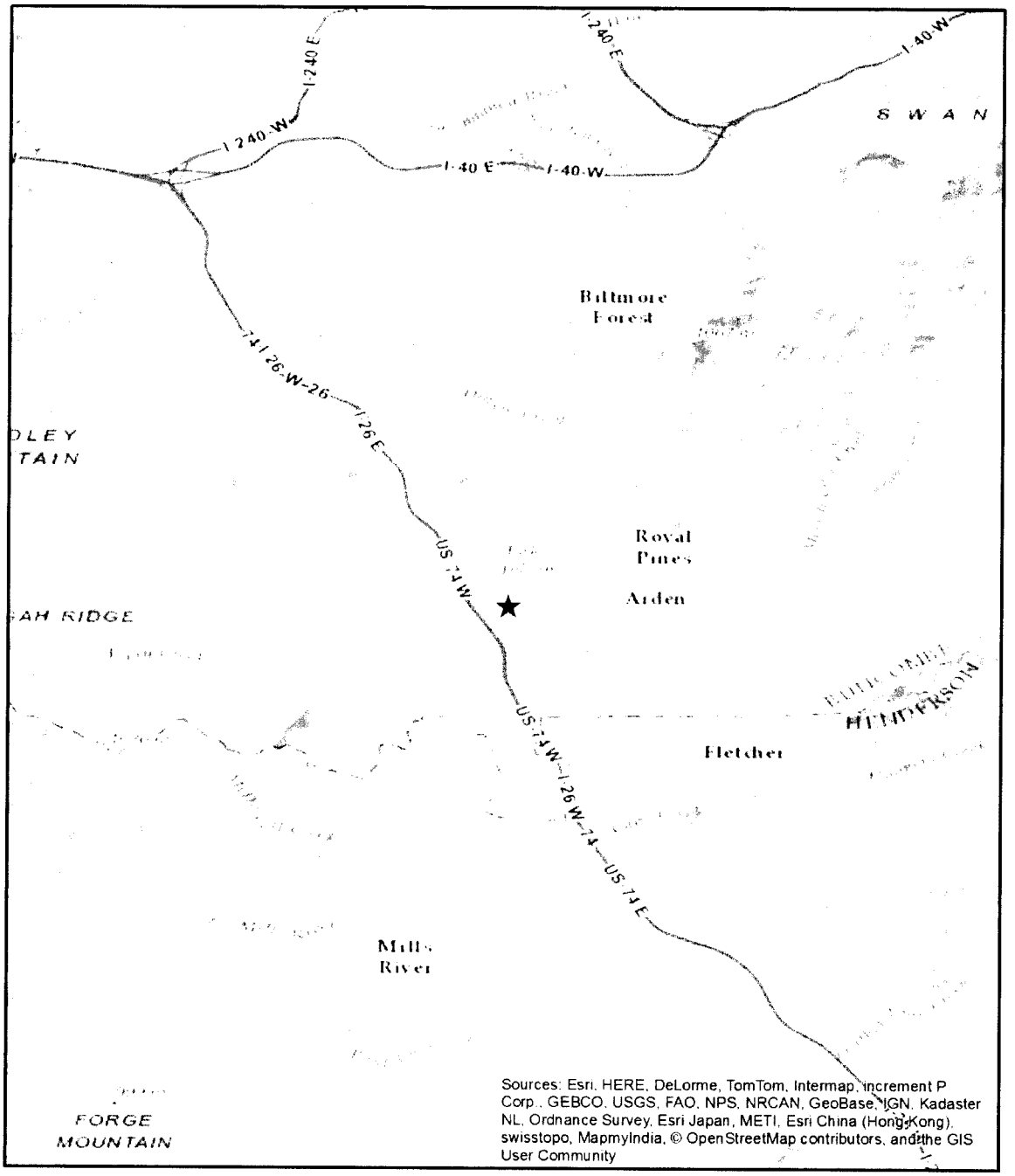

Figure 2-1
Duke Energy Progress, LLC
Asheville Steam Station
Site Location and Surrounding Topography

0 0.75 1.5 3 Miles

N

AECOM

Figure 2-2
Duke Energy Progress, LLC
Asheville Steam Station
Site Aerial View

0 0.1 0.2 0.4 Miles

N

AECOM

Shepherd, Lorinda

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Friday, March 06, 2015 1:52 PM
To: Purvis, James
Cc: Betsy Brown; david.brigman@buncombecounty.org; Ceron, Heather; Shepherd, Lorinda; Krivo, Stan; James C. Raiford
Subject: RE: follow up about SO2 emissions from Asheville Plant

James, Lori, Heather, and Stan,

Thanks again for your assistance and your time yesterday on the phone. I am going to send the application to Lori and James in separate messages since it will include multiple emails,

Ashley

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

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From: Purvis, James [mailto:Purvis.James@epa.gov]
Sent: Wednesday, March 04, 2015 1:06 PM
To: Ashley Featherstone
Cc: Betsy Brown; David Brigman; Ceron, Heather; Shepherd, Lorinda; Krivo, Stan
Subject: RE: follow up about SO2 emissions from Asheville Plant

Hi Ashley,

I've confirmed we will be able to call your office number at 2:30 tomorrow. Talk to you soon. Thank you!

Regards,

James Purvis
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section

404 562 9139

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Tuesday, March 03, 2015 1:53 PM
To: Purvis, James
Cc: Betsy Brown; david.brigman@buncombecounty.org
Subject: RE: follow up about SO2 emissions from Asheville Plant

James,

Thanks for your help with this. Thursday works for us if that works for everyone. In the morning, we are available after 10 am. In the afternoon, any time before 3 is good.

Ashley

Ashley Featherstone
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From: Purvis, James [mailto:Purvis.James@epa.gov]
Sent: Tuesday, March 03, 2015 11:15 AM
To: Ashley Featherstone
Cc: Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

Rejected email text:

Ashley,

As a follow up to our discussion yesterday I have asked for Stan to provide some thoughts on the comment letter you shared and we will be in touch soon.

In the meantime, I have attached a recent petition response order from EPA addressing similar issues raised in other states you may find helpful. The relevant language begins on page 10.

I've also attached the permit record for the SCE&G Wateree Station renewal where we saw some very similar issues raised during the public comment period but a petition was never filed. The response to comments is at the end of the file and begins on page 78.

We could possibly arrange a call Thursday to discuss in more detail if everyone needed is available.

What would work best for you?

Oh, I didn't include David on this email, but feel free to forward on in case there is interest in all the details and the call.

From: Purvis, James
Sent: Tuesday, March 03, 2015 11:14 AM
To: 'Ashley Featherstone'
Cc: 'Betsy Brown'
Subject: RE: follow up about SO2 emissions from Asheville Plant

The file is too big so here is the link to the petition response. See page 10:

http://www.epa.gov/region07/air/title5/petitiondb/petitions/homer_response2012.pdf

James

From: Purvis, James
Sent: Tuesday, March 03, 2015 11:05 AM
To: 'Ashley Featherstone'
Cc: Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

This is the big one....

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Monday, March 02, 2015 11:24 AM
To: Shepherd, Lorinda
Cc: Purvis, James; Ceron, Heather; Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

Lorinda,

We do have an electronic version of the application, it is 49 MB. I can burn it on a DVD and mail it to you. The file may also be on the Southern Environmental Law Center's FTP site, it was at one time. We can check and let you know.

We would like to discuss these comments with you sometime this week if possible.

Thanks,
Ashley

Ashley Featherstone
Permitting Program Manager
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ashley.featherstone@buncombecounty.org

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From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Friday, February 27, 2015 2:43 PM
To: Ashley Featherstone
Cc: Purvis, James; Ceron, Heather
Subject: RE: follow up about SO2 emissions from Asheville Plant

Thanks, Ashley. We'll keep an eye out for the draft/proposed permit. Do you have an electronic copy of the application that you can send us?

Regards,
Lori

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Friday, February 27, 2015 2:20 PM
To: Shepherd, Lorinda; Purvis, James
Cc: Betsy Brown; James C. Raiford; david.brigman@buncombecounty.org
Subject: FW: follow up about SO2 emissions from Asheville Plant

Lorinda and James,

Attached is a letter from the Sierra Club with comments and a request for a public hearing for the Duke Energy Progress permit that is up for renewal in May. They are requesting a more stringent SO2 limit in the permit per their most recent modeling study for compliance with the SO2 NAAQS. We anticipate that the public comment period and 45 day EPA review period will begin in mid to late March as we are currently planning to renew the permit on May 11th (our permit issue dates are related to our board meeting schedule). I expect that we will be responding to these comments in our permit review document and/or a response to comments document that we are required to prepare per our rules whenever we do receive public comments on a permit. We wanted to let you know about this in advance.

Thanks,
Ashley

Ashley Featherstone

Permitting Program Manager
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From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 24, 2015 5:42 PM
To: Ashley Featherstone
Subject: follow up about SO2 emissions from Asheville Plant

Hi Ashley,

Thank you for taking the time out of your day to speak with me yesterday. As promised, please find attached a letter detailing the Sierra Club's concerns regarding sulfur dioxide emissions from the Asheville Plant as well as two reports that present the results of air dispersion modeling analysis and an analysis of scrubber operations at the Plant, respectively (also available here and here).

Regards,
Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Shepherd, Lorinda

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Thursday, March 26, 2015 4:14 PM
To: Shepherd, Lorinda; Purvis, James
Cc: Betsy Brown; James C. Raiford; david.brigman@buncombecounty.org
Subject: Duke Energy Progress Title V Permit Renewal
Attachments: removed.txt; 11-628-15 Permit Review Form.docx; Permit No. 11-628-15 DRAFT.docx

Attached is a draft permit and permit review form for Duke Energy Progress, Inc. – Asheville Steam Plant. While the permit is open for renewal, it is being revised to incorporate a condition referencing the Mercury Air Toxics Standard. The Acid Rain, CAIR provisions, and General Conditions have also been updated. A discussion regarding the one hour sulfur dioxide standard and the GHG Reporting Rule is included in the permit review document. We would like to utilize parallel review processing for this permit.

WNCRAQA has received a request for a public hearing on the proposed permit. A public hearing has been scheduled for 6 p.m. on April 29 at the Clyde A. Erwin High School Auditorium, 60 Lees Creek Road, Asheville. Written comments will be accepted until April 30th.
Should we receive any public comments that appear to warrant permit revisions, we'll contact you immediately. Please let us know if you have any questions.

Thanks,
Ashley

Ashley Featherstone
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Shepherd, Lorinda

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Thursday, March 26, 2015 4:20 PM
To: 'Victor (Vic) Fahrer'; 'Arthur S. McDaniel (asmcdaniel@aqm.co.knox.tn.us)'; 'Ashby.Scott@deq.virginia.gov'; 'eric_cornwell@dnr.state.ga.us'; forrpark@nc-cherokee.com; 'leeka@dhec.sc.gov'; 'Sheila Holman (sheila.holman@ncdenr.gov)'; 'Soraya Purvis (purvissa@dhec.sc.gov)'; 'Vergil Murrell III (vergil.murrell@tn.gov)'
Cc: Shepherd, Lorinda; Purvis, James; Betsy Brown; James C. Raiford; david.brigman@buncombecounty.org
Subject: Duke Energy Progress Title V Permit Renewal
Attachments: removed.txt; Public Notice WNCRAQA.doc

The Western North Carolina Regional Air Quality Agency issued a notice for public comment on the draft Title V permit renewal for the Duke Energy Progress facility in Arden, NC in the Thursday, March 26th edition of the Asheville Tribune and the Weaverville Tribune newspapers. The notice is attached for your review.

Please contact this Agency with any questions. The draft permit and permit review package are available for review upon request.

Thanks,

Ashley Featherstone

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
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Shepherd, Lorinda

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Friday, March 27, 2015 2:34 PM
To: Shepherd, Lorinda; Purvis, James
Cc: Betsy Brown; James C. Raiford; david.brigman@buncombecounty.org
Subject: RE: Duke Energy Progress Title V Permit Renewal
Attachments: removed.txt; Permit No. 11-628-15 DRAFT Full.pdf

Lorinda and James,

Attached is a pdf version of the draft permit that includes the CAIR and Acid Rain program attachments. The Word version I sent did not include those at the end.

Thanks,
Ashley

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From: Ashley Featherstone
Sent: Thursday, March 26, 2015 4:14 PM
To: 'Lorinda Shepherd (shepherd.lorinda@epa.gov)'; James Purvis (purvis.james@epa.gov)
Cc: Betsy Brown (betsy.brown@buncombecounty.org); James Raiford (james.raiford@buncombecounty.org); David Brigman
Subject: Duke Energy Progress Title V Permit Renewal

Attached is a draft permit and permit review form for Duke Energy Progress, Inc. – Asheville Steam Plant. While the permit is open for renewal, it is being revised to incorporate a condition referencing the Mercury Air Toxics Standard. The Acid Rain, CAIR provisions, and General Conditions have also been updated. A discussion regarding the one hour sulfur dioxide standard and the GHG Reporting Rule is included in the permit review document. We would like to utilize parallel review processing for this permit.

WNCRAQA has received a request for a public hearing on the proposed permit. A public hearing has been scheduled for 6 p.m. on April 29 at the Clyde A. Erwin High School Auditorium, 60 Lees Creek Road, Asheville. Written comments will be accepted until April 30th.
Should we receive any public comments that appear to warrant permit revisions, we'll contact you immediately. Please let us know if you have any questions.

Thanks,
Ashley

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Shepherd, Lorinda

From: Purvis, James
Sent: Tuesday, April 28, 2015 3:08 PM
To: Ceron, Heather; Shepherd, Lorinda
Subject: FW: WNCRAQA-Duke Permit Renewal

Fyi...

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Tuesday, April 28, 2015 11:06 AM
To: Purvis, James
Subject: FW: WNCRAQA-Duke Permit Renewal

James,

Below are a couple of emails I have sent to NC DAQ's Public Information Officer, Tom Mather. They include links to different articles related to our permit renewal,

Thanks,
Ashley

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
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From: Ashley Featherstone
Sent: Tuesday, April 28, 2015 11:05 AM
To: Mather, Tom (tom.mather@ncdenr.gov)
Subject: FW: WNCRAQA-Duke Permit Renewal

Hey again Tom,

I thought I would send you the most recent articles, FYI.

Thanks,

Ashley

http://www.citizen-times.com/story/news/local/2015/04/27/duke-plant-focus-air-quality-public-meeting/26444115/

http://mountainx.com/news/wnc-and-nation-get-a-30-million-push-to-move-beyond-coal/

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From: Ashley Featherstone
Sent: Friday, April 24, 2015 4:14 PM
To: Mather, Tom (tom.mather@ncdenr.gov)
Subject: WNCRAQA-Duke Permit Renewal

Tom,

Thanks for taking the time to talk to me about the upcoming public hearing for the permit renewal for the Duke Energy Progress Permit (April 29th). The public comment period is underway and runs through April 30th. I thought I would send you some of the information that is circulating. A local environmental group called Mountain True has a website that is dedicated to this issue. http://action.mountaintrue.org/page/speakout/stop-unsafe-air-pollution-from-asheville-coal-plant The Mountain Express Blogwire includes a story with an electronic petition that Mountain True is circulating. http://mountainx.com/blogwire/mountain-true-seeks-signatures-on-petition-for-tighter-standards-for-ashevilles-coal-burning-plant/.

We have a public notice and the press release for the hearing, both are on our website in the news section (on the left side of the front page). http://www.buncombecounty.org/Governing/Depts/wncair/default.aspx Below I have copied in a couple of paragraphs from the press release, which address the sulfur dioxide (SO2) standard that Sierra Club is discussing in the comments that they have submitted to us (which is the focus of the Mountain True initiative).

Here is a story that ran in the local paper back in February when Sierra Club released the results of the studies they commissioned. http://www.citizen-times.com/story/news/local/2015/02/19/sierra-club-toxins-lake-julian-plant-high/23699983/

Thanks,

Ashley

From the press release on our website for the hearing:

"By law, the WNCRAQA must review permits for compliance with existing air quality regulations. On June 22, 2010, the EPA revised the Primary National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO2). Air quality designations were published by EPA in 2013 for areas where SO2 monitoring sites were established and data was sufficient to determine compliance. EPA has not yet issued designations for areas where established SO2 monitoring sites are not present. The EPA proposed the Data Requirements Rule for the 1-Hour Sulfur Dioxide (SO2) Primary National Ambient Air Quality Standard (NAAQS) on May 13, 2014. This proposed rule details the requirements for a state to provide data to the EPA so the EPA in turn can make final SO2 NAAQS attainment designations."

"The proposed rule includes an anticipated timeline for the attainment designation process. The air agency will be required to submit a list of applicable sources located in its jurisdiction to the EPA by January 15, 2016. For each area containing an applicable source, the air agency shall state whether it will characterize air quality through ambient air quality monitoring or through air quality modeling techniques. For areas that are characterized using a modeling analysis, it is expected that modeling will be completed and submitted to the EPA by January 2017, and that final designations for these areas will be completed by December of 2017. For areas that elect to characterize air quality through ambient monitoring, the monitors are to be operational by January 2017. Three years of data will be collected, with the EPA issuing final designations by December of 2020. State attainment plans will be due in August of 2022. A final rule is expected later this year. The Agency, along with the North Carolina Division of Air Quality, will establish any enforceable emission limits as necessary per the process outlined above. No modeling analysis is required for the 1-hour SO2 standard at this time."

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
(828) 250-6778
www.wncairquality.org

Shepherd, Lorinda

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Friday, May 01, 2015 6:13 PM
To: Purvis, James; Shepherd, Lorinda
Cc: Betsy Brown; James C. Raiford
Subject: FW: Public Comment Period on Proposed Duke Energy Air Permit Renewal Extended to May 7, 2015
Attachments: removed.txt

Lorinda and James,

Below is the text of an announcement we sent out earlier today to our public notice email list. I think I copied you on it. We have extended the comment period on the Duke Energy Progress-Asheville Steam Plant permit until May 7th. This information is listed on our website at www.wncairquality.org. After the period closes, we will be preparing a summary of comments with responses for your review. All comments will be available for review as well.

Thanks,
Ashley

WNCRAQA has received a request to extend the public comment period for the proposed Duke Energy Progress, Inc. Skyland plant in Arden. Written comments will be accepted until May 7, 2015 and can be submitted to: Betsy Brown, Air Quality Supervisor, WNC Regional Air Quality Agency, 49 Mt Carmel Rd, Asheville, N.C. 28806, or by e-mail to betsy.brown@buncombecounty.org. All comments received on or prior to that date will be considered by the WNCRAQA in making its final decision to issue the Title V permit.
The draft permit, permit application, compliance plan, monitoring and compliance reports, all other relevant supporting materials, and all other materials available to the WNCRAQA that are relevant to the permit decision are available for public review at the following address: Western North Carolina Regional Air Quality Agency, 49 Mount Carmel Road, Asheville, NC 28806. Materials are available for review during the hours of 8:30 am to 5:00 pm, Monday through Friday. The office phone number is 828-250-6777.
More information is available at www.wncairquality.org.

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From: Ashley Featherstone
Sent: Thursday, March 26, 2015 4:14 PM
To: 'Lorinda Shepherd (shepherd.lorinda@epa.gov)'; James Purvis (purvis.james@epa.gov)
Cc: Betsy Brown (betsy.brown@buncombecounty.org); James Raiford (james.raiford@buncombecounty.org); David Brigman
Subject: Duke Energy Progress Title V Permit Renewal

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Should we receive any public comments that appear to warrant permit revisions, we'll contact you immediately. Please let us know if you have any questions.

Thanks,
Ashley

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Thanks,
Ashley

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Shepherd, Lorinda

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Friday, May 08, 2015 4:59 PM
To: Shepherd, Lorinda; Johnson, Terry
Cc: Purvis, James; Betsy Brown; James C. Raiford; david.brigman@buncombecounty.org
Subject: FW: Sierra Club's comments on Draft Title V Permit Renewal for Asheville Coal Plant
Attachments: removed.txt; 2015.04.30_Sierra Club comments on Asheville Title V Renewal.pdf; Ex. A_Asheville Air Modeling Report_Gebhart_2.13.2015.pdf; Ex. B_Asheville Scrubber Operations Report_Sahu_2.16.2015.pdf

Lori, Terry, and James,

Attached are the final comments that we received from the Sierra Club on the draft Title V permit renewal for Duke Energy Progress, Inc. The letter with the comments is quite a bit more lengthy than the first one and includes several additional issues. The other two attachments with the modeling study and scrubber study are the same as those we received in February with the first letter, which we sent to you previously.

The comment period closed on May 7th. We will let you know when we have the comments complied and summarized with our responses ready for your review. I expect it will not be before the end of May. Please let me know if you have any questions.

Thanks,
Ashley

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

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All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Thursday, April 30, 2015 8:31 PM
To: Betsy Brown; Ashley Featherstone
Cc: Kelly Martin
Subject: Sierra Club's comments on Draft Title V Permit Renewal for Asheville Coal Plant

Betsy and Ashley,

Many thanks for all of your assistance with providing documents and answering questions during the public comment period. We greatly appreciate your ongoing engagement.

Attached please find Sierra Club's comments on the Draft Title V Permit Renewal for Duke Energy Progress' Asheville Coal Plant along with two exhibits.

Please don't hesitate to call if you would like to discuss further.

Best regards,
Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Shepherd, Lorinda

From: Purvis, James
Sent: Tuesday, April 28, 2015 3:08 PM
To: Ceron, Heather; Shepherd, Lorinda
Subject: FW: WNCRAQA-Duke Permit Renewal

Fyi...

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Tuesday, April 28, 2015 11:06 AM
To: Purvis, James
Subject: FW: WNCRAQA-Duke Permit Renewal

James,

Below are a couple of emails I have sent to NC DAQ's Public Information Officer, Tom Mather. They include links to different articles related to our permit renewal,

Thanks,
Ashley

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

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All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Ashley Featherstone
Sent: Tuesday, April 28, 2015 11:05 AM
To: Mather, Tom (tom.mather@ncdenr.gov)
Subject: FW: WNCRAQA-Duke Permit Renewal

Hey again Tom,

I thought I would send you the most recent articles, FYI.

Thanks,

Ashley

http://www.citizen-times.com/story/news/local/2015/04/27/duke-plant-focus-air-quality-public-meeting/26444115/

http://mountainx.com/news/wnc-and-nation-get-a-30-million-push-to-move-beyond-coal/

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

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All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Ashley Featherstone
Sent: Friday, April 24, 2015 4:14 PM
To: Mather, Tom (tom.mather@ncdenr.gov)
Subject: WNCRAQA-Duke Permit Renewal

Tom,

Thanks for taking the time to talk to me about the upcoming public hearing for the permit renewal for the Duke Energy Progress Permit (April 29th). The public comment period is underway and runs through April 30th. I thought I would send you some of the information that is circulating. A local environmental group called Mountain True has a website that is dedicated to this issue. http://action.mountaintrue.org/page/speakout/stop-unsafe-air-pollution-from-asheville-coal-plant The Mountain Express Blogwire includes a story with an electronic petition that Mountain True is circulating. http://mountainx.com/blogwire/mountain-true-seeks-signatures-on-petition-for-tighter-standards-for-ashevilles-coal-burning-plant/.

We have a public notice and the press release for the hearing, both are on our website in the news section (on the left side of the front page). http://www.buncombecounty.org/Governing/Depts/wncair/default.aspx Below I have copied in a couple of paragraphs from the press release, which address the sulfur dioxide (SO2) standard that Sierra Club is discussing in the comments that they have submitted to us (which is the focus of the Mountain True initiative).

Here is a story that ran in the local paper back in February when Sierra Club released the results of the studies they commissioned. http://www.citizen-times.com/story/news/local/2015/02/19/sierra-club-toxins-lake-julian-plant-high/23699983/

Thanks,

Ashley

From the press release on our website for the hearing:

"By law, the WNCRAQA must review permits for compliance with existing air quality regulations. On June 22, 2010, the EPA revised the Primary National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO2). Air quality designations were published by EPA in 2013 for areas where SO2 monitoring sites were established and data was sufficient to determine compliance. EPA has not yet issued designations for areas where established SO2 monitoring sites are not present. The EPA proposed the Data Requirements Rule for the 1-Hour Sulfur Dioxide (SO2) Primary National Ambient Air Quality Standard (NAAQS) on May 13, 2014. This proposed rule details the requirements for a state to provide data to the EPA so the EPA in turn can make final SO2 NAAQS attainment designations."

"The proposed rule includes an anticipated timeline for the attainment designation process. The air agency will be required to submit a list of applicable sources located in its jurisdiction to the EPA by January 15, 2016. For each area containing an applicable source, the air agency shall state whether it will characterize air quality through ambient air quality monitoring or through air quality modeling techniques. For areas that are characterized using a modeling analysis, it is expected that modeling will be completed and submitted to the EPA by January 2017, and that final designations for these areas will be completed by December of 2017. For areas that elect to characterize air quality through ambient monitoring, the monitors are to be operational by January 2017. Three years of data will be collected, with the EPA issuing final designations by December of 2020. State attainment plans will be due in August of 2022. A final rule is expected later this year. The Agency, along with the North Carolina Division of Air Quality, will establish any enforceable emission limits as necessary per the process outlined above. No modeling analysis is required for the 1-hour SO2 standard at this time."

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
(828) 250-6778
www.wncairquality.org

SIERRA CLUB
FOUNDED 1892

April 30, 2015

Via e-mail to betsy.brown@buncombecounty.org

Betsy Brown
Air Quality Supervisor
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806

Re: Comments on Draft Title V Permit Renewal for Duke Energy Progress' Asheville Steam Electric Plant, Permit No. 11-628-15

Dear Ms. Brown:

On behalf of its more than 60,000 North Carolina members and supporters, the Sierra Club respectfully submits these comments on the Draft Title V Permit Renewal, Permit No. 11-628-15 ("Draft Permit") published by the Western North Carolina Regional Air Quality Agency ("WNCRAQA" or "Agency") for Duke Energy Progress' Asheville Steam Electric Plant ("Asheville Plant" or "Plant") in Buncombe County, North Carolina.

As discussed in greater detail below, the Draft Permit fails to require adequate control of air pollution as required by the federal Clean Air Act and by governing state and local laws and regulations. Specifically, the Draft Permit does not include numerical emission limits for sulfur dioxide ("SO_2") or for nitrogen oxides ("NO_X"), including nitrogen dioxide ("NO_2"), that are stringent enough to ensure that the Plant will not cause or contribute to exceedances of the governing ambient air quality standards, does not include appropriate averaging time periods by which to measure compliance with emission limits, does not require that the operation of various air pollution control technologies be continuous or in accordance with design specifications and best engineering practices, does not provide a schedule for compliance with ongoing violation of the current permit, and does not include clear conditions governing compliance with the new mercury and air toxics standard.

Accordingly, the Sierra Club urges the Agency to correct these defects in a revised draft permit before issuing a final Title V air operation permit for the Plant.

I. Governing Law and Regulations

The Clean Air Act is intended to protect and enhance the public health and public welfare of the nation.[1] To this end, the U.S. Environmental Protection Agency ("EPA") is required to promulgate primary and secondary National Ambient Air Quality Standards ("NAAQS") for six "criteria" pollutants—sulfur dioxides, nitrogen oxides, particulate matter, carbon monoxide, ozone, and lead.[2] Primary NAAQS are health-based standards and must be set at a level adequate to protect the public from the harmful effects of exposure to the criteria pollutants with an adequate margin of safety.[3]

For sulfur dioxide, EPA adopted a one-hour standard of 75 parts per billion (ppb) (equivalent to 196.2 micrograms per cubic meter ($\mu g/m^3$)), in recognition of the fact that the prior 24-hour and annual standards did not adequately protect the public against adverse respiratory effects associated with short term (5-minute to 24-hour) exposure.[4] Due to both the shorter averaging time and the lower concentration value, the one-hour 75-ppb standard for SO_2 is far more protective than prior standards and is projected to have enormous public health benefits—EPA has estimated that 2,300 to 5,900 premature deaths and 54,000 asthma attacks a year will be prevented by the new standard.[5] North Carolina and WNCRAQA regulations were both revised in 2011 to incorporate the one-hour, 75-ppb standard. For nitrogen dioxide, EPA adopted a one-hour standard of 100 ppb, as a supplement to the existing annual standard in light of the causal connection between short-term exposure to NO_2 and adverse respiratory effects.[6]

In addition to the national standards for criteria pollutants, EPA must promulgate standards for various air toxics, and sources of such pollution must comply "as expeditiously as practicable, but in no event later than 3 years after the effective date" of those standards.[7] After decades of delay, EPA finally issued the required Mercury and Air Toxics Standards ("MATS") for coal- and oil-burning power plants in 2012.[8] Timely compliance with the

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[1] *See* 42 U.S.C. § 7401(b)(1).

[2] *Id.* at § 7409.

[3] *Id.*

[4] U.S. EPA, Final Rule, Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. 35,520 (June 22, 2010) (codified at 40 C.F.R. § 50.17(a)).

[5] U.S. EPA, Final Regulatory Impact Analysis (RIA) for the SO2 National Ambient Air Quality Standards (NAAQS) tbl. 5.14 (2010), *available at* www.epa.gov/ttnecas1/regdata/RIAs/fso2ria100602full.pdf.

[6] U.S. EPA, Primary National Ambient Air Quality Standards for Nitrogen Dioxide, 75 Fed. Reg. 6,474 (Feb. 9, 2010) (codified at 40 C.F.R. Parts 50, 58).

[7] 42 U.S.C. § 7412(i)(3).

[8] *See* 77 Fed. Reg. 9,304 (Feb. 16, 2012) (codified at 40 C.F.R. Parts 60, 63).

MATS is necessary to prevent adverse public health impacts.[9] For example, uncontrolled releases of mercury from coal-burning power plants can damage children's developing nervous systems, reducing their ability to think and learn.[10] Releases of other toxic air pollutants from these plants can cause a range of dangerous health problems in adults, from cancer to respiratory illnesses.[11]

State and regional air quality agencies that are delegated implementation authority under the Clean Air Act (such as WNCRAQA) develop and implement plans by which they ensure attainment of the federal NAAQS and other standards. The air quality standards contained in each implementation plan are applied to specific major emissions sources through the "Title V" permitting program.[12] Major stationary sources of air pollution are prohibited from operating except in compliance with an operating permit issued under Title V of the Act.[13] Title V permits must require compliance with all applicable federal, state, and local regulations in one legally enforceable document, thereby ensuring that all Clean Air Act requirements are applied to the facility.[14] These permits must include emission limitations and other conditions necessary to assure a facility's continuous compliance with all applicable requirements.[15] Title V permits must also contain monitoring, recordkeeping, reporting, and other requirements to assure continuous compliance by sources with emission control requirements.[16]

EPA delegated to North Carolina the authority to administer the Title V operating permit program within the State. North Carolina, in turn, delegated to WNCRAQA the authority to administer the program in Buncombe County and the City of Asheville. Title V permits issued by WNCRAQA must include enforceable emission limitations and standards and such other conditions as are necessary to assure compliance with all applicable requirements at the time of permit issuance.[17] "Applicable requirements" include standards or other requirements of the Clean Air Act that are codified in state or federal laws such as regulations that have been promulgated or approved by EPA through rulemaking at the time

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[9] U.S. EPA, Fact Sheet: Mercury and Air Toxics Standards, Benefits and Costs of Cleaning up Toxic Air Pollution from Power Plants (Dec. 21, 2011), *available at* www.epa.gov/mats/pdfs/20111221MATSimpactsfs.pdf.

[10] *Id.*

[11] *Id.*

[12] *See* 42 U.S.C. §§ 7410, 7661.

[13] 42 U.S.C. § 7661a(a); 40 C.F.R. § 70.5(a).

[14] *See* 42 U.S.C. §§ 7661a(a) and 7661c(a); 40 C.F.R. § 70.6(a)(1).

[15] *See id.*

[16] *See* 40 C.F.R. Part 70.

[17] *See* 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(1).

of permit issuance but that have future effective compliance dates, as well as standards that are effective at the time of permit issuance.[18]

Among the applicable requirements for Title V permits issued by WNCRAQA is the prohibition of pollution that causes the exceedance of an ambient air quality standard. Specifically, both North Carolina and WNCRAQA regulations provide that "[n]o facility or source of air pollution shall cause any ambient air quality standard in this Section to be exceeded or contribute to a violation of any ambient air quality standard in this Section."[19] In addition, State and WNCRAQA regulations both require that sources of air pollution "be operated with such controls or in such manner that the source shall not cause the ambient air quality standards" and further require that, when the numerical emission limits established by regulation are insufficient to prevent violation of ambient air quality standards, a permit "contain a condition requiring [more stringent limits]."[20]

As the Draft Permit notes, "WNCRAQA may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements."[21] Thus, the burden is on polluters to demonstrate that their activities will not cause the exceedance of an ambient air quality standard or the violation of the MATS and other applicable requirements.

When providing reasonable assurance that a stationary source of air pollution will not cause pollution in violation of any applicable requirements, permit applicants have relied upon air dispersion modeling to demonstrate that their operations will not cause exceedances of ambient air quality standards.[22] Indeed, modeling is the best way to assess SO_2 concentrations for NAAQS implementation purposes. Recognizing the "strong source-oriented nature of SO_2 ambient impacts,"[23] EPA has concluded that the appropriate methodology for purposes of determining compliance, attainment, and nonattainment with the one-hour SO_2 NAAQS is air dispersion modeling.[24] In promulgating that standard, EPA

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[18] *See* 40 C.F.R. § 70.2.

[19] 15A N.C.A.C. § 2D.0401(c); WNCRAQA Code § 4.0401(c).

[20] 15A N.C.A.C. § 2D.0501(c); WNCRAQA Code § 4.0501(c).

[21] Draft Permit at 30.

[22] *See, e.g.*, *Haile Community Ass'n v. Florida Rock Indus., Inc.*, Case No. 95-5531 (DOAH July 23, 1996) ([T]he applicant "provided reasonable assurance through air quality modeling that [it] would meet primary and secondary ambient air quality standards."); *Arnold R. Di Silvestro v. Medico Envtl. Servs., Inc.*, Case No. 92-0851 (DOAH Feb. 19, 1993) ("The air model shows that none of the National Ambient Air Quality Standards for any of the criteria pollutants would be exceeded by adding either the impact of the . . . facility [at issue]" or another nearby polluting facility, or both facilities combined).

[23] 75 Fed. Reg. at 35,370.

[24] *Id.* at 35,551 (describing dispersion modeling as "the most technically appropriate, efficient, and readily available method for assessing short-term ambient SO2 concentrations in areas with large point sources.").

explained that "it is more appropriate and efficient to principally use modeling to assess compliance for medium to larger sources."[25]

As EPA explained in the preamble to its Title V Program rule, "regulations are often written to cover broad source categories," leaving it "unclear which, and how, general regulations apply to a source."[26] Title V permits bridge this gap by "clarify[ing] and mak[ing] more readily enforceable a source's pollution control requirements," including making clear how general regulatory provisions apply to specific sources.[27] In short, Title V permits are supposed to link general regulatory provisions to a specific source to provide a way "to establish whether a source is in compliance."[28]

The provisions of a Title V permit must be sufficiently clear and specific to ensure that all applicable requirements are enforceable as a practical matter. EPA describes the requirement of "practical enforceability" as follows:

> A permit is enforceable as a practical matter (or practically enforceable) if permit conditions establish a clear legal obligation for the source [and] allow compliance to be verified. / Providing the source with clear information goes beyond identifying the applicable requirement. It is also important that permit conditions be unambiguous and do not contain language which may intentionally or unintentionally prevent enforcement.[29]

In short, an interested person should be able to understand from the permit how much pollution the plant is legally authorized to emit and how the source is monitored for compliance. The public should not be forced to conduct air dispersion modeling or other resource-intensive analyses in order to determine whether emissions from a permitted air pollution source are causing unsafe air downwind and, thus, violating narrative permit provisions. Instead, the permitting agency should establish numerical emission limits that are stringent enough to ensure that Plant emissions do not interfere with the attainment or maintenance of downwind air quality standards.

As WNCRAQA staff has correctly noted, EPA will soon revisit its process of determining whether the air quality in particular geographic areas satisfies the one-hour SO_2

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[25] *Id.* at 35,570; *see also Montana Sulphur & Chem. Co. v. EPA*, 666 F.3d 1174 (9th Cir. 2012) (affirming use of modeling to ascertain SO_2 pollution impacts); U.S. EPA, Final Response to Petition From New Jersey Regarding SO_2 Emissions From the Portland Generating Station, 76 Fed. Reg. 69,052 (Nov. 7, 2011) (using modeling to set emission limits sufficient to prevent air pollution).

[26] U.S. EPA, Operating Permit Program, 57 Fed. Reg. 32,250, 32,251 (July 21, 1992).

[27] S. Rep. 101-228, 1990 USCAAN 3385, 3730 (Dec. 20, 1989).

[28] *Id.*

[29] U.S. EPA, Region 9, Title V Permit Review Guidelines (Sept. 9, 1999) III-55, *available at* http://www.epa.gov/region9/air/permit/titlev-guidelines/practical-enforceability.pdf.

NAAQS. However, this process—which itself could take more than five years, not counting the subsequent development and approval of implementation plans—does not prohibit WNCRAQA from establishing string numerical emission limits in permits in order to protect the health and wellbeing of the people who breathe the air downwind of the Asheville Plant—and who will continue to do so for the next five years.

II. Sulfur Dioxide Pollution from Duke Energy's Asheville Plant

As we explained in our February 24, 2015 letter to WNCRAQA Permitting Program Manager Ashley Featherstone, the results of an air quality dispersion modeling analysis conducted on behalf of the Sierra Club demonstrate that SO_2 emissions from the Asheville Plant have caused and likely are continuing to cause unsafe ambient air conditions downwind of the Plant. (A report prepared by Air Resource Specialists, Inc. detailing that analysis is attached as Exhibit A.) Troublingly, the analysis reveals that, on one out of every three to four days between 2010 and 2014, operation of the Plant caused SO_2 ambient air concentrations higher than the 75-ppb (196-$\mu g/m^3$) standard. Indeed, SO_2 concentrations of 696 $\mu g/m^3$—nearly 3.5 times higher than the governing health-based standard—were calculated. Areas with elevated SO_2 concentrations include parts of South Asheville, Fairview, and Leicester, as well as hiking trails in Bent Creek Forest. Given the fact that exposure to SO_2 for even very short periods of time can result in serious adverse health effects, the communities within the area of impact are rightly concerned.

The modeling of emissions from the Asheville Plant was based on actual emissions data collected from the Plant's continuous emission monitoring system and real-time meteorological data collected by the National Weather Service at the Asheville Regional Airport, which, given the airport's close proximity to the Plant, provide a reliable basis for calculating the dispersion of the pollution. The experts who conducted the analysis utilized the air dispersion model developed and approved by EPA (AERMOD) and followed applicable federal and state modeling guidance. EPA's AERMOD has been rigorously field-tested, including in areas with complex, hilly terrain, and such testing shows a high correlation between monitored and modeled ambient pollutant concentrations. All assumptions that were made were conservative, so as to underestimate the impact of pollution from the Asheville Plant. For example, the model assumed that the background concentration of SO_2 was zero; therefore, all impacts calculated are solely attributable to emissions from Duke's Asheville Plant.

The results of the air dispersion modeling analysis demonstrate that the numerical limits for SO_2 emissions included in the Draft Permit (2.3 lbs/MMBtu)[30] are not stringent enough to ensure that the Plant will not cause downwind exceedances of the governing ambient air quality standard. Instead, the air modelers found that the SO_2 emission rate that

[30] Draft Permit at 4–5.

resulted in an AERMOD prediction equal to the 75-ppb standard was 61.7 lb/hr for each unit (123.4 lbs/hr combined for Units 1 and 2). Based on the Btu rating of each boiler as listed in the Draft Permit, this SO_2 emissions rate would equate to an average rate across both units of 0.029 lb/MMBtu—approximately 80 times more stringent than the proposed limit. Thus, in order to ensure that the Plant's emissions do not cause or contribute to the exceedance of the 75-ppb standard, a numerical emission limit at least as stringent as 0.029 lb/MMBtu is necessary.

III. Operations at Duke Energy's Asheville Plant

In addition to the new modeling results, a separate analysis of the operations at the Asheville Plant indicates that, after an initial decline following the installation of the flue gas desulfurization systems ("FGD systems" or "scrubbers"), SO_2 emission rates began to increase in 2008 and remained higher than the rates that were being achieved during the first months of scrubber operation. (A report by Dr. Ranajit Sahu detailing that analysis is attached as Exhibit B.) For both of the coal-burning units at the Asheville Plant, the emission rate increases coincide with self-reported declines in the Plant's annual scrubber efficiencies.

Both scrubbers are designed to achieve 97% SO_2 removal efficiency, and, following their installation, both were tested and found to actually be removing more than 97% of the SO_2 generated in the Plant's two boilers. Nevertheless, in 2009, Duke reported scrubber efficiencies of 93.1% and 93.8% for Asheville Units 1 and 2, respectively. Between 2009 and 2012, Duke's self-reported annual scrubber efficiencies remained low, averaging around 93%. Moreover, Duke's permit application assumes an even lower scrubber efficiency value of 90%.[31] Independent calculations of actual scrubber performance paint an even worse picture: scrubber efficiency as low as 78% for Unit 2 in 2011.

Similarly, based on a preliminary analysis of Duke's operations of the pollution control equipment designed to remove NO_X—a selective catalytic reduction system ("SCR") for each unit—it appears that these systems likely are not achieving the NO_X removal efficiencies that they were designed to achieve. The SCR systems were installed at Asheville Units 1 and 2 in 2007 and 2006, respectively and were designed to remove a minimum of 90% of NO_X from the boiler flue gas.[32] However, the permit application submitted by Duke Energy to WNCRAQA assumes only 70% removal efficiency for the Plant's SCR systems. Indeed, NO_X emission rates in recent years have increased compared to the rates being achieved immediately following SCR installation.

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[31] Permit Application at 105, 120.

[32] Steve Cisek, "Case Histories: Asheville Power Station's Retrofit First to Meet North Carolina's Clean Smokestacks Act," POWER (Sept. 1, 2006), *available at* www.powermag.com/case-histories-asheville-power-stations-retrofit-first-to-meet-north-carolinas-clean-smokestacks-act/.

IV. The Draft Permit Fails to Establish Sufficiently Stringent Numerical Emission Limits for Harmful Pollutants.

Despite new federal rules that require stronger protections against the harms posed by exposure to SO_2 pollution, the Draft Permit includes the same numerical emission limits for SO_2 (2.3 lbs/MMBtu) as the Plant's previous air permit. These limits are not stringent enough to protect public health from the dangers posed by exposure to SO_2 or to ensure compliance with applicable requirements. Indeed, there is no indication in the permit record that either Duke Energy or the Agency assessed the outdated SO_2 emission limits to determine whether they could prevent the Asheville Plant from causing or contributing to exceedances of the 75-ppb ambient air quality standard for SO_2. Thus, the people who breathe the air downwind of the Plant have no reasonable assurance that the Plant's emissions won't lead to unsafe pollution levels and associated health risks.

In fact, and as discussed above, the results of an air dispersion modeling analysis demonstrate that the limits are nowhere near strong enough to prevent emissions that can cause or contribute to the downwind exceedance of the 75-ppb air quality standard. Modeling of the Plant's *actual* emissions from between August 2010 to July 2014 revealed that those emissions caused a peak SO_2 impact of 696 $\mu g/m^3$—a pollution concentration 3.5 times higher than the level above which EPA considers risks to public health unacceptable. Between 2010 and 2014, the Plant's average SO_2 emission rate was approximately 0.18 lbs/MMBtu[33]—far below the numerical limit, but still high enough to cause unsafe pollution downwind. If the Plant were to emit SO_2 at the *allowable* 2.3 lbs/MMBtu rate, downwind impacts would be far greater.

Both North Carolina and WNCRAQA require that sources of air pollution "be operated with such controls or in such manner that the source shall not cause the ambient air quality standards" and that, "[w]hen controls more stringent than named in the applicable emission standards [*i.e.*, 2.3 lbs/MMBtu] are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls."[34] The North Carolina Department of Environment and Natural Resources Division of Air Quality has relied on this narrative prohibition on pollution that causes the exceedance of air quality standards to impose more stringent numerical limits for SO_2 emissions than are provided for in other regulatory provisions.[35] Thus, WNCRAQA should not feel constrained by section 4.0516(a) of its Code, which provides that the "[e]mission of sulfur dioxide ... shall not exceed 2.3 pounds of sulfur

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[33] EPA's Clean Air Markets Database, Query, Emissions from Asheville, *available at* http://ampd.epa.gov/ampd/.

[34] 15A N.C.A.C. § 2D.0501(c); *see also* WNCRAQA Code § 4.0501(c).

[35] *See, e.g.*, Air Quality Permit No. 01001T48 for the Roxboro Steam Electric Plant at 8 (citing 15A NCAC 2D.0501(c) as "Applicable Regulation" requiring a numerical emission limit more stringent than 2.3 lbs/MMBtu).

dioxide per million BTU input." This provision establishes a regulatory floor; WNCRAQA has the authority and indeed the duty, per section 4.0501(c), to set permit limits that are more stringent in order to ensure the protection of public health and the attainment of air quality standards.

As with SO_2 the Title V permit must ensure that the Plant's emissions do not cause the exceedance of the 100-ppb ambient air quality standard for NO_2. There is no indicated that either Duke or the Agency assessed the numerical emission limit for NO_2 to ensure that it is strong enough to protect against the exceedance of the new air quality standard. Therefore, we urge the Agency to modify the Draft Permit to include modeling-based numerical emission limits that will guarantee that the new, more protective one-hour air quality standards for SO_2 and NO_2 can be achieved in areas downwind of the Plant and that the public is protected from unsafe levels of air pollution.

V. The Draft Permit Fails to Include Proper Averaging Periods for the Plant's Emission Limits.

In addition to lacking sufficiently stringent numerical SO_2 emission limits, the Draft Permit also fails to set an appropriate averaging period for determining compliance with those limits. Despite the fact that EPA has determined a one-hour air quality standard is necessary to protect public health from the dangers associated with exposure to SO_2, the Draft Permit measures compliance with its limits on SO_2 emissions according to a 24-hour averaging time period.[36]

As discussed above, the new 75-ppb air quality standard is designed to prevent harm to human health—harm which can be caused by as little as five minutes of exposure—and, therefore, is based on a one-hour averaging time.[37] Continued reliance on the 24-hour averaging time to determine compliance with permit limits could result in the release of emissions at rates during a single hour of the day that are far higher than the permit limit and that could lead to dramatic downwind exceedances of the health-based air quality standard. Unfortunately, the fact that the 24-hour average is below a certain level provides no comfort to the people downwind of the Plant who will breathe heavily polluted air at a particular point during the day. Indeed, this aspect of the Draft Permit flies in the face of EPA's rationale for tightening the SO_2 air quality standard—namely, the scientific evidence that short-term exposure to SO_2 for time periods as low as five minutes can cause serious health problems.

EPA guidance has recommended that averaging times for emissions limits "should not exceed the averaging time of the applicable NAAQS that the limit is intended to help

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[36] Draft Permit at 6.

[37] *See* 40 C.F.R. § 50.17(a).

attain."[38] Thus, "emission limits for attaining the 1-hour SO2 standard should limit emissions for each hour, without any provision for limiting emissions as averaged across multiple hours."[39] Moreover, EPA has advised that "any emissions limits based on averaging periods longer than 1 hour should be designed to have comparable stringency to a 1-hour average limit at the critical emission value."[40] Accordingly, if the Agency chooses to employ an averaging period longer than one hour, the numerical limit for the Asheville Plant's SO_2 emissions must be ratcheted down further to provide adequate assurance that those emissions will not cause or contribute to the exceedance of the one-hour, 75-ppb air quality standard.[41]

As with SO_2, WNCRAQA must ensure that the proposed averaging period for the NO_X emission limits is appropriately tailored so that it allows for an accurate determination as to whether the Plant is complying with the one-hour NO_2 NAAQS. The Draft Permit includes a 24-hour averaging period for compliance with NOX emission limits. Accordingly, the Agency should ensure that appropriately stringent SO_2 and NO_X emission limits requested herein apply at all times of the day by establishing an hourly averaging period for permit compliance or, if it intends to retain the 24-hour averaging period, it should adopt even more stringent numerical emission limits. Given the continuous emission monitoring system in place at the Plant, Duke should have no trouble measuring compliance with emission limits every hour.

VI. The Draft Permit Fails to Require Continuous Operation of Existing Equipment in Accordance with Best Engineering Practices.

In addition to the one-hour averaging time and the more stringent numerical emission limit identified above as necessary for a legally-defensible permit, the Draft Permit should be revised to require the operation of its pollution controls at all times and in accordance with best engineering practices. The Draft Permit includes a footnote that specifies that the FGD system is "[t]o be operated on an as-needed basis."[42] This provision should be removed.

As discussed above, recent analysis of operations at the Asheville Plant demonstrates that the Plant's two scrubbers have not been achieving the SO_2 removal efficiencies that they

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[38] U.S. EPA Memorandum of Apr. 23, 2014, to Regional Air Division Directors, Regions 1–10, Guidance for 1-Hour SO2 NAAQS Nonattainment Area SIP Submissions, at 22.

[39] *Id.*

[40] *Id.*

[41] *See id.* Appx. B (detailing EPA's guidance for setting longer term average emission limits).

[42] Draft Permit at 3, n.3.

were designed to achieve and that such sub-par operation has led to emissions that have caused the exceedance of the health-based air quality standard. In addition, given the serious adverse health effects that can be caused by even very short-term exposure to SO_2, it is vitally important that existing pollution control technology is operated continuously and that applicable emission limits apply always.

In addition to their scrubbers, Units 1 and 2 at the Plant are each equipped with a selective catalytic reduction system designed to control the emission of nitrogen oxides ("NOx"). Following the installation of the SCR controls in 2006 and 2007, the Plant's rate of NOx emissions was reduced. Prior to installation, Duke reported a 0.49 lbs/MMBtu NOx emission rate at Unit 1; after installation, the unit was able to achieve a 0.07 lbs/MMBtu rate.[43] Unit 2 was emitting NOx at a 0.23 lbs/MMBtu rate before SCR installation and at a 0.06 lbs/MMBtu rate after.[44]

However, despite being equipped with the technology necessary to control the emission of this pollutant, the Asheville units have, in recent years, been emitting NOx at greater rates than achievable given the SCR system, suggesting that the SCR system is not being run continuously or in accordance with best engineering practices. Table 1 illustrates the higher NOx emission rates documented in recent years—about double the rates achieved following SCR installation.[45]

Table 1 – Annual NO_X Emission Rates

	2006	2008	2013	2014
Unit 1	0.49	0.07	0.12	0.12
Unit 2	0.23	0.06	0.11	0.12

As currently written the Draft Permit only requires the Plant's SCR systems, like its FGD systems, to be operated "on an as needed basis."[46] In addition to allowing for unsafe pollution levels, provisions allowing pollution controls to operate on "as needed" bases, conflicts with the assumed control efficiencies identified in the permit application. Accordingly, the Agency should eliminate both of these loopholes and should modify the Draft Permit to require the operation of all of the Plant's pollution control technologies in accordance with best engineering practices and to require that those systems be run continuously.

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[43] EPA's Clean Air Markets Database, Query, Emissions from Asheville, *available at* http://ampd.epa.gov/ampd/.

[44] *Id.*

[45] *Id.*

[46] Draft Permit at 3, n.2.

VII. The Draft Permit Fails to Address Current Violations of the Prohibition on Pollution that Causes the Exceedance of an Ambient Air Quality Standard.

As shown by the air dispersion modeling discussed above, SO_2 emissions from the Asheville Plant have, in recent years, caused the frequent exceedance of the 75-ppb air quality standard in communities downwind of the Plant in violation of the current permit's narrative emission limit. Nevertheless—and despite Sierra Club's bringing this fact to WNCRAQA's attention in advance of the publication of the Draft Permit—the provisions in the Draft Permit that pertain to SO_2 pollution are nearly identical to those included in the current permit.

A Title V permit must address and include provisions for achieving compliance with current violations of applicable requirements.[47] Accordingly, permits must contain "a description of the compliance status of the source," "a narrative description of how the source will achieve compliance" with requirements for which it is in noncompliance, and "a schedule of compliance for sources that are not in compliance with all applicable requirements at the time of permit issuance."[48] The compliance schedule must identify "remedial measures, including 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."[49]

Therefore, WNCRAQA must revise the Draft Permit to include more stringent numerical emission limits for SO_2 as well as proper averaging times and a requirement that the Plant's pollution control technology be operated according to best engineering practices at all time.

VIII. The Draft Permit Fails to Include Clear Conditions Governing Compliance with the New Mercury and Air Toxics Standard.

The Draft Permit very closely resembles the current Title V permit for the Plant (Permit No. 11-628-10B), which was issued by WNCRAQA on January 18, 2011. As discussed above, EPA finalized a new rule governing the emission of mercury and other air toxics from power plants in 2012. The MATS rule includes a compliance deadline of April 16, 2015. Despite this new requirement, the Draft Permit does not appear to incorporate any additional restrictions on the operation of the Asheville Plant that are designed to achieve compliance with the new standard nor does it identify any retrofits that are needed to meet the new standard. Section 2.1(G) of the Draft Permit does refer to the relevant regulatory provisions—*i.e.*, 40 C.F.R. § 63 Subpart UUUUU—but it does not identify any

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[47] 40 C.F.R. § 70.5(c)(8)(iii)(C); *id.* at § 70.6(c)(3).

[48] *Id.*

[49] *Id.*

specific compliance options that Duke intends to utilize in order to meet the new standard.

Some details about Duke's plan for MATS compliance were provided in a request for a minor air permit modification that was submitted to WNCRAQA on March 26, 2015[50]—curiously, the same day that WNCRAQA give the public notice of the opportunity to comment on the Draft Permit. Given that the compliance deadline for EPA's new rule of April 16, 2015 has undoubtedly been known by Duke since the rule was finalized in February 2012, it is a wonder that the company waited until just three weeks before that deadline to start the process of demonstrating to WNCRAQA how the Asheville Plant will comply with MATS.

In any event, the public must be able to understand how Duke will comply with the new standard and to rely on enforceable permit conditions that specify emission limits and monitoring options. Neither the Draft Permit nor the modification request make clear what MATS limits apply at the Asheville Plant and how compliance with them will be monitored. The Draft Permit should be revised to include the specific, enforceable limits necessary to ensure compliance with the MATS rule, and, to the extent the Plant was out of compliance with the standard as of April 16, 2015, the Draft Permit should address those violations and ensure that future violations will not occur.

IX. Miscellaneous

We bring the following remaining miscellaneous concerns with the Draft Permit to the Agency's attention. The Draft Permit allows for the use of "unbiased" values in connection with monitoring and recordkeeping requirements.[51] The permit record does not include any rationale for the use of unbiased values and such use is inconsistent with federal regulations, which provide for the use of "bias-adjusted" values when substituting for missing data.[52] The Agency should revise the Draft Permit to comport with federal regulations.

The Draft Permit requires a malfunction abatement plan,[53] but such plan is not available for review by the public. In addition, Duke Energy's permit application includes numerous unsupported assumptions and relies on documents that have not been made available to the public (it is unclear whether they were provided to Agency staff). Because the permit application and all supporting information and materials are part of the final Title V permit, it is important that such information and materials are available for review by the public and the Agency. We, therefore, request that the missing materials identified herein, to

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[50] It is not clear whether this request is properly styled as a minor modification.

[51] Draft Permit at 6, 7, 20.

[52] 40 C.F.R. Part 75, Appx. A, Sec. 7.6.5(f).

[53] Draft Permit at 14.

the extent they are within the Agency's control, be provided to the public. In addition, we request that additional time for public comment on the Draft Permit Renewal be afforded once those materials are produced and in light of the voluminous permit renewal record, some documents of which we were able to obtain for the first time this week.

Materials relied upon in the permit application, but not made available include:[54] EPRI Report, Electric Utility Trace Substances Synthesis Report;[55] basis for assumption that control efficiency from hydrated lime addition is 40%;[56] basis for assumption that ammonia slip from the SCR catalyst is limited to 2 ppm;[57] basis for assumption that volumetric flow rate is 500,000 cubic feet per minute (for ammonia mass calculation);[58] source of various wind speed and moisture inputs;[59] EPRI PISCES Database (version 2005a);[60] metals speciation for limestone;[61] metals speciation for gypsum;[62] metals speciation for hydrated lime;[63] and basis for assumption about 27% control level for mercury.[64]

Finally, we highlight the following additional issues with the permit application. The permit application presents various emissions calculations that relate to EDTA reference data from the Roxboro and Robinson plants; it is not clear to us why this data would be relevant to the permitting of the Asheville Plant.[65] The permit application refers to the EPA TANKS 4.0 program,[66] but we note that EPA has discontinued its support of this program and has upgraded to TANKS 4.09D.[67] The permit application includes a calculation of the Plant's potential to emit that improperly uses average emission factors for various metals,[68] when, instead, the calculation should use maximum emission factors. In addition, because the Draft Permit does not specify a particular coals type, the applicability of the metal tests provided in the permit application is not sufficient.

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[54] This list of materials refers to those parts of the permit application that concern Unit 1; similar materials are missing from the parts of the application concerning Unit 2 and also are hereby requested.

[55] Permit Application at 107.

[56] *Id.* at 108.

[57] *Id.*

[58] *Id.* at 109.

[59] *Id.* at 129, 134, 148.

[60] *Id.* at 129, 130.

[61] *Id.* at 134, 142.

[62] *Id.* at 149.

[63] *Id.* at 155.

[64] *Id.* at 157.

[65] *Id.* at 111–18, 157.

[66] *Id.* 176–80.

[67] U.S. EPA, TANKS Emissions Estimation Software, Version 4.09D, www.epa.gov/ttnchie1/software/tanks/.

[68] Permit Application at 110–18.

X. Conclusion

For all the reasons discussed above, Sierra Club urges the Agency to modify the Draft Permit as follows to:

(1) establish modeling-based, numerical emission limits for SO_2 stringent enough to guarantee that pollution from the Asheville Plant will not cause or contribute to exceedances of the 75-ppb air quality standard for SO_2 downwind of the Plant;

(2) establish modeling-based, numerical emission limits for NO_X stringent enough to guarantee that pollution from the Asheville Plant will not cause or contribute to exceedances of the 100-ppb air quality standard for NO_X downwind of the Plant;

(3) require one-hour averaging times for SO_2 and NO_X emission limits;

(4) require that all air control pollution technology be operated continuously and in accordance with best engineering practices;

(5) address current violations of the prohibition on pollution that causes the exceedance of ambient air quality standards by implementing the modifications identified above;

(6) include clear conditions governing compliance with the new Mercury and Air Toxics Standard;

(7) correct inconsistencies in the Draft Permit;

(8) make available all information and materials relied upon for permit issuance; and

(9) provide additional time for public comment.

We thank the Agency for its attention to and consideration of these comments, and please do not hesitate to contact me if you would like to discuss them further.

Sincerely,

Bridget M. Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
bridget.lee@sierraclub.org

February 9, 2016

Via e-mail to ashley.featherstone@buncombecounty.org

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801

Re: Request for Issuance of Title V Permit for Duke Energy Progress' Asheville Steam Electric Plant, Permit No. 11-628-15

Dear Ms. Featherstone:

As you know, the air quality permit for Duke Energy Progress' Asheville Steam Electric Plant expired on May 31, 2015, and the Western North Carolina Regional Air Quality Agency ("WNCRAQA") received a timely application for permit renewal from the company on August 22, 2014. Under the Clean Air Act and its implementing regulations, a permitting authority must "take final action on each permit application (including a request for permit modification or renewal) within 18 months ... after receiving a complete application." 40 C.F.R. § 70.7(a)(2); *see also* 42 U.S.C. § 7661b(c). Accordingly, WNCRAQA must take final action on Duke's application by February 22, 2016. In addition, WNCRAQA's own regulations—those designed to establish a permitting program consistent with the requirements of title V of the Clean Air Act—require that "[t]he Director shall complete the review of the record and send the proposed permit to EPA . . . within 45 days after the close of the public hearing if there is a public hearing on the draft permit." WNCRAQA Code § 17.0525(6)(B). It has been 286 days since the public hearing on this permit renewal, but WNCRAQA has yet to send a proposed permit to EPA.

The Sierra Club submitted detailed comments on the draft permit, documenting dangerous levels of sulfur dioxide pollution in a number of Asheville neighborhoods, which pollution was caused by emissions from the Asheville plant, and urged WNCRAQA to establish numerical emission limits stringent enough to ensure that the people of Asheville would no longer be exposed to unsafe amounts of sulfur dioxide. We reiterate our serious concern with the rates at which the Plant has been emitting sulfur dioxide in recent years—high enough to cause pollution concentrations that exceed public health-based standards on one out of every three to

four days. Exposure to elevated concentrations of sulfur dioxide—even for as little as five minutes—can cause serious adverse respiratory effects and has been linked to increased asthma attacks and hospital visits. Children, the elderly, and asthmatics face heightened risks from sulfur dioxide exposure.

These concerns are shared by the broader Asheville community. Nearly 250 residents attended the April 29, 2015 hearing on the permit renewal, and many called on WNCRAQA to issue a permit that would protect the health of their families and guarantee clean air. Following the hearing, Sierra Club representatives and others have repeatedly called for final action on the permit, but, more than nine months later, no final permit has been issued nor has a proposed permit even been submitted to the U.S. Environmental Protection Agency for its review.

The requirements established by Title V of the Clean Air Act and governing regulations are intended to safeguard downwind communities against the dangers caused by the emission of harmful pollutants from coal-burning power plants and other facilities, in part, by ensuring that polluters may not continue operating pursuant to outdated permits indefinitely. Allowing the Asheville plant to emit sulfur dioxide and other pollutants without an updated permit frustrates the purposes of the Clean Air Act and North Carolina's environmental laws. In order to fulfill the public policy of the State to conserve its air resources and to protect public health, WNCRAQA must issue a final permit for the Asheville plant without further delay.

Thank you for your prompt attention to this matter. Please do not hesitate to contact me if you would like to discuss.

Sincerely,

Bridget M. Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
bridget.lee@sierraclub.org

cc via e-mail:

Heather McTeer Toney
Regional Administrator
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960
mcteertoney.heather@epa.gov

Beverly Banister
Air, Pesticides, and Toxics Management Division Director
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960
banister.beverly@epa.gov

Heather Ceron
Air Permits Section Chief
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960
ceron.heather@epa.gov

Johnson, Terry

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Monday, August 29, 2016 1:52 PM
To: Johnson, Terry
Subject: Duke Energy Progress Asheville Steam Plant
Attachments: Permit No. 11-628-16 FINAL.pdf

Hi Terry,

The permit is attached.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

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All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

Johnson, Terry

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Friday, April 15, 2016 5:07 PM
To: Johnson, Terry; Purvis, James
Cc: James C. Raiford; david.brigman@buncombecounty.org; Betsy Brown; Ceron, Heather
Subject: RE: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached
Attachments: Appendix B part 2 - Written Comments.pdf

Last file attached,

Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

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From: Ashley Featherstone
Sent: Friday, April 15, 2016 4:59 PM
To: Terry Johnson (johnson.terry@epa.gov) <johnson.terry@epa.gov>; James Purvis (purvis.james@epa.gov) <purvis.james@epa.gov>
Cc: James Raiford (james.raiford@buncombecounty.org) <james.raiford@buncombecounty.org>; David Brigman <David.Brigman@buncombecounty.org>; Betsy Brown (betsy.brown@buncombecounty.org) <betsy.brown@buncombecounty.org>; Ceron, Heather (Ceron.Heather@epa.gov) <Ceron.Heather@epa.gov>
Subject: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached

Terry and James,

Attached are two files with the amended draft permit, one shows the changes highlighted from when it was first submitted last year. In addition to adding the condition with the mass based SO2 limit for Units 1 and 2 (discussion on this starts on page 15 of response to comments document) and correcting the associated cross references (starting on page 5 of the permit), we corrected a couple of minor typographical errors and omissions. A reference to the CAIR condition for SO2 was added to the table on page 4, a correction was made to an incorrect reference in what was

Condition 2.1(L), that condition is now 2.1(M) (Use of Projected Actual Emissions to Avoid PSD), and we corrected an incorrect rule reference in the monitoring and recordkeeping section of Condition 2.1(B).

Also attached is our permit review form (same as submitted last year), and two files with the modeling report and review (per the revised SO2 limit as noted in the paragraph above), and our response to comments document, which is a memo to our board. I will send several files with the actual comments in a separate message, the files are large. Please let me know if you have any questions or need additional information. It is our understanding that EPA's 45 day review period will begin now that the revised draft permit and additional documents have been submitted.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
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WNC Regional Air Quality Agency
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Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
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ashley.featherstone@buncombecounty.org

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From: Ashley Featherstone
Sent: Thursday, February 11, 2016 5:04 PM
To: 'Lorinda Shepherd (shepherd.lorinda@epa.gov)' <shepherd.lorinda@epa.gov>; Terry Johnson (johnson.terry@epa.gov) <johnson.terry@epa.gov>; James Purvis (purvis.james@epa.gov) <purvis.james@epa.gov>
Cc: James Raiford (james.raiford@buncombecounty.org) <james.raiford@buncombecounty.org>; David Brigman <David.Brigman@buncombecounty.org>; Betsy Brown (betsy.brown@buncombecounty.org) <betsy.brown@buncombecounty.org>
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

Lori, Terry, and James,

I am writing to provide a brief update on the Duke Energy Progress (DEP) permit renewal for the Asheville Steam Plant, per my conversation with Lori earlier today. As you know, we submitted a draft permit for renewal to Region 4 on March 26, 2015. The public notice was issued on the same day. A public hearing was held on April 29th. The public comment period ran through May 7, 2015. We received 690 comments. The permit was taken out of concurrent review. In November of 2015, we completed the review of the comments and discovered that more information was needed concerning the SO2 limit in the current and proposed permit.

Commenters at the hearing (oral comments) had pointed out that all other coal fired power plants in NC had more stringent SO2 limits than Asheville (statewide limit for sources not subject to an NSPS or other standard is 2.3 lbs SO2/MMBtu heat input, that is the limit in the current and proposed permit). Upon further review, it was determined that the commenters were correct. Apparently, when the stacks were modified for the installation of scrubbers required by the NC Clean Smokestacks Act (NC CSA), DAQ required the coal fired power plants to model for compliance with the SO2 NAAQS that was in place at the time (this was prior to 2010). The reason that modeling was requested appears to be that modeling had previously been done by all coal fired power plants in NC (including Asheville) back in the 1980s for NAAQS compliance when NC raised the SO2 limit to 2.3 lbs/MMBtu, this modeling was required by EPA for SIP approval. Modeling was required by NC for the NC CSA permit modifications since stack parameters were changing for the installation of the scrubbers. The stacks were lowered at that time. The Asheville steam plant modeled for compliance with the SO2 standard back in the 1980s, when the other plants modeled. However, WNCRAQA did not require Progress Energy to remodel for the SO2 standard in 2003 when the permit was modified for installation of the scrubbers. We reviewed the permit modification file for 2003 and found that Progress Energy referenced a screening level dispersion modeling analysis that was conducted to ensure that air quality conditions would be preserved with the new stack height. But, no actual modeling analysis was submitted. Our modification was the first one in NC for NC CSA (2003), there was no reference to the 1980s modeling in the permit modification file, and this was prior to NC requiring modeling of the other plants. When we discovered that all of the other plants had to take more stringent limits when they remodeled in the 2000s, we became concerned that modeling for Asheville would show a lower limit was needed and as such, requested that the facility model for compliance with the SO2 NAAQS that was in place back in 2003. The request to the facility for more information was made on November 30, 2015. A modeling protocol was submitted by DEP on January 14, 2016. The protocol was approved on January 29, 2016. We expect to receive the modeling from DEP next week. We are planning to review it and submit the draft permit, public comments, and our responses to comments to EPA as soon as possible.

The expiration date on the current DEP permit is May 31, 2015. Since the facility submitted a timely and complete application prior to the due date of August 31, 2014 (application was received on August 22, 2014), the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied (per Chapter 17 .0513(c) of our code).

Please let us know if you need any additional information from us at this time. We appreciate your assistance with this permit.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

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From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 09, 2016 5:30 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Subject: Sierra Club request for final Title V permit for Asheville coal plant

Good afternoon Ashley,

I received your message regarding the additional analyses WNCRAQA has requested from Duke Energy. While we appreciate the effort to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. We believe the agency has all the information it needs to set permit limits that protect public health, and we urge you to finalize the permit for this facility without further delay. To that end, please find attached Sierra Club's formal request that WNCRAQA issue a final Title V permit for the Asheville coal plant.

Many thanks,

Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Johnson, Terry

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Friday, April 15, 2016 4:59 PM
To: Johnson, Terry; Purvis, James
Cc: James C. Raiford; david.brigman@buncombecounty.org; Betsy Brown; Ceron, Heather
Subject: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached
Attachments: Permit No. 11-628-15 DRAFT amended 2016 changes accepted.docx; Permit No. 11-628-15 DRAFT amended 2016 changes highlighted.docx; 11-628-15 Permit Review Form.docx; 02-16-16 12512C Retroactive SO2 Modeling Analysis Submittal.pdf; Duke Asheville_Buncombe.pdf; Memo to Board with Appendices.pdf

Terry and James,

Attached are two files with the amended draft permit, one shows the changes highlighted from when it was first submitted last year. In addition to adding the condition with the mass based SO2 limit for Units 1 and 2 (discussion on this starts on page 15 of response to comments document) and correcting the associated cross references (starting on page 5 of the permit), we corrected a couple of minor typographical errors and omissions. A reference to the CAIR condition for SO2 was added to the table on page 4, a correction was made to an incorrect reference in what was Condition 2.1(L), that condition is now 2.1(M) (Use of Projected Actual Emissions to Avoid PSD), and we corrected an incorrect rule reference in the monitoring and recordkeeping section of Condition 2.1(B).

Also attached is our permit review form (same as submitted last year), and two files with the modeling report and review (per the revised SO2 limit as noted in the paragraph above), and our response to comments document, which is a memo to our board. I will send several files with the actual comments in a separate message, the files are large. Please let me know if you have any questions or need additional information. It is our understanding that EPA's 45 day review period will begin now that the revised draft permit and additional documents have been submitted.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

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Sent: Thursday, February 11, 2016 5:04 PM
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Cc: James Raiford (james.raiford@buncombecounty.org) <james.raiford@buncombecounty.org>; David Brigman <David.Brigman@buncombecounty.org>; Betsy Brown (betsy.brown@buncombecounty.org) <betsy.brown@buncombecounty.org>
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

Lori, Terry, and James,

I am writing to provide a brief update on the Duke Energy Progress (DEP) permit renewal for the Asheville Steam Plant, per my conversation with Lori earlier today. As you know, we submitted a draft permit for renewal to Region 4 on March 26, 2015. The public notice was issued on the same day. A public hearing was held on April 29th. The public comment period ran through May 7, 2015. We received 690 comments. The permit was taken out of concurrent review. In November of 2015, we completed the review of the comments and discovered that more information was needed concerning the SO2 limit in the current and proposed permit.

Commenters at the hearing (oral comments) had pointed out that all other coal fired power plants in NC had more stringent SO2 limits than Asheville (statewide limit for sources not subject to an NSPS or other standard is 2.3 lbs SO2/MMBtu heat input, that is the limit in the current and proposed permit). Upon further review, it was determined that the commenters were correct. Apparently, when the stacks were modified for the installation of scrubbers required by the NC Clean Smokestacks Act (NC CSA), DAQ required the coal fired power plants to model for compliance with the SO2 NAAQS that was in place at the time (this was prior to 2010). The reason that modeling was requested appears to be that modeling had previously been done by all coal fired power plants in NC (including Asheville) back in the 1980s for NAAQS compliance when NC raised the SO2 limit to 2.3 lbs/MMBtu, this modeling was required by EPA for SIP approval. Modeling was required by NC for the NC CSA permit modifications since stack parameters were changing for the installation of the scrubbers. The stacks were lowered at that time. The Asheville steam plant modeled for compliance with the SO2 standard back in the 1980s, when the other plants modeled. However, WNCRAQA did not require Progress Energy to remodel for the SO2 standard in 2003 when the permit was modified for installation of the scrubbers. We reviewed the permit modification file for 2003 and found that Progress Energy referenced a screening level dispersion modeling analysis that was conducted to ensure that air quality conditions would be preserved with the new stack height. But, no actual modeling analysis was submitted. Our modification was the first one in NC for NC CSA (2003), there was no reference to the 1980s modeling in the permit modification file, and this was prior to NC requiring modeling of the other plants. When we discovered that all of the other plants had to take more stringent limits when they remodeled in the 2000s, we became concerned that modeling for Asheville would show a lower limit was needed and as such, requested that the facility model for compliance with the SO2 NAAQS that was in place back in 2003. The request to the facility for more information was made on November 30, 2015. A modeling protocol was submitted by DEP on January 14, 2016. The protocol was approved on January 29, 2016. We expect to receive the modeling from DEP next week. We are planning to review it and submit the draft permit, public comments, and our responses to comments to EPA as soon as possible.

The expiration date on the current DEP permit is May 31, 2015. Since the facility submitted a timely and complete application prior to the due date of August 31, 2014 (application was received on August 22, 2014), the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied (per Chapter 17 .0513(c) of our code).

Please let us know if you need any additional information from us at this time. We appreciate your assistance with this permit.

Thanks,

Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 09, 2016 5:30 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Subject: Sierra Club request for final Title V permit for Asheville coal plant

Good afternoon Ashley,

I received your message regarding the additional analyses WNCRAQA has requested from Duke Energy. While we appreciate the effort to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. We believe the agency has all the information it needs to set permit limits that protect public health, and we urge you to finalize the permit for this facility without further delay. To that end, please find attached Sierra Club's formal request that WNCRAQA issue a final Title V permit for the Asheville coal plant.

Many thanks,

Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Johnson, Terry

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Friday, April 08, 2016 3:33 PM
To: Johnson, Terry; Purvis, James
Cc: Ceron, Heather; Betsy Brown; James C. Raiford
Subject: RE: PRE-DRAFT permit renewal and response to comments for Duke Energy Progress Asheville Steam Plan
Attachments: removed.txt; 02-16-16 12512C Retroactive SO2 Modeling Analysis Submittal.pdf; Duke Asheville_Buncombe.pdf; Memo to Board on Comments from Duke Energy Hearing_Predraft 0324016 Rev2.doc

Terry and James,

Per our conversation, attached are two pdf files with more information about the modeling that DEP conducted for the new SO2 limit included in the draft permit. The first file is the report that was submitted by DEP. The second file is a memo from Tom Anderson of NC DAQ, who reviewed the modeling for us. If you are interested in the actual modeling files, please let me know and I can provide those via Dropbox or mail.

I have also attached the response to comments document that we sent previously, PRE-DRAFT version.

Thanks for your assistance,

Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Ashley Featherstone
Sent: Thursday, March 24, 2016 5:48 PM
To: Terry Johnson (johnson.terry@epa.gov) <johnson.terry@epa.gov>; James Purvis (purvis.james@epa.gov) <purvis.james@epa.gov>
Cc: Ceron, Heather (Ceron.Heather@epa.gov) <Ceron.Heather@epa.gov>; Betsy Brown

(betsy.brown@buncombecounty.org) <betsy.brown@buncombecounty.org>; James Raiford (james.raiford@buncombecounty.org) <james.raiford@buncombecounty.org>
Subject: PRE-DRAFT permit renewal and response to comments for Duke Energy Progress Asheville Steam Plan

Terry and James,

Attached are two files with the amended draft permit, one shows the changes highlighted from when it was first submitted last year. In addition to adding the condition with the mass based SO2 limit for Units 1 and 2 (discussion on this starts on page 16 of response to comments document) and correcting the associated cross references (starting on page 5), we corrected a couple of minor typographical errors and omissions. A reference to the CAIR condition for SO2 was added to the table on page 4, a correction was made to an incorrect reference in what was Condition 2.1(L), that condition is now 2.1(M) (Use of Projected Actual Emissions to Avoid PSD), and we corrected an incorrect rule reference in the monitoring and recordkeeping section of Condition 2.1(B).

Also attached is our response to comments document, which is a memo to our board. Please let me know if you have any questions or comments.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

Johnson, Terry

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Thursday, March 24, 2016 5:48 PM
To: Johnson, Terry; Purvis, James
Cc: Ceron, Heather; Betsy Brown; James C. Raiford
Subject: PRE-DRAFT permit renewal and response to comments for Duke Energy Progress Asheville Steam Plan
Attachments: Permit No. 11-628-15 DRAFT amended 2016 changes accepted.docx; Permit No. 11-628-15 DRAFT amended 2016 changes highlighted.docx; Memo to Board on Comments from Duke Energy Hearing_Predraft 0324016 Rev1.doc

Categories: Red Category

Terry and James,

Attached are two files with the amended draft permit, one shows the changes highlighted from when it was first submitted last year. In addition to adding the condition with the mass based SO2 limit for Units 1 and 2 (discussion on this starts on page 16 of response to comments document) and correcting the associated cross references (starting on page 5), we corrected a couple of minor typographical errors and omissions. A reference to the CAIR condition for SO2 was added to the table on page 4, a correction was made to an incorrect reference in what was Condition 2.1(L), that condition is now 2.1(M) (Use of Projected Actual Emissions to Avoid PSD), and we corrected an incorrect rule reference in the monitoring and recordkeeping section of Condition 2.1(B).

Also attached is our response to comments document, which is a memo to our board. Please let me know if you have any questions or comments.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
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ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

Johnson, Terry

From: Ceron, Heather
Sent: Monday, March 14, 2016 2:49 PM
To: Ashley Featherstone
Cc: Johnson, Terry; Betsy Brown; James C. Raiford; david.brigman@buncombecounty.org
Subject: RE: Duke Energy - Asheville

Ok, please let us know if you run into a delay.

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Monday, March 14, 2016 2:31 PM
To: Ceron, Heather <Ceron.Heather@epa.gov>
Cc: Johnson, Terry <Johnson.Terry@epa.gov>; Betsy Brown <betsy.brown@buncombecounty.org>; James C. Raiford <James.Raiford@buncombecounty.org>; david.brigman@buncombecounty.org
Subject: RE: Duke Energy - Asheville

Heather,

We expect to have a draft ready for review in the next couple of weeks. Final version of response to comments with comments and changes to the draft permit to EPA for review within the next 4 weeks, hopefully sooner.

We requested more information from Duke at the end of November. We received the additional information from them in February. We are incorporating that information into the response to comments and draft permit right now.

Please let me know if you need additional details,

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Ceron, Heather [mailto:Ceron.Heather@epa.gov]
Sent: Monday, March 14, 2016 1:57 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Cc: Johnson, Terry <Johnson.Terry@epa.gov>
Subject: Duke Energy - Asheville

Ashley,

Could you provide us with the timing of this permit? When will you be proposing it to EPA? Thanks so much! We have been getting a lot of questions on this and I would like to be able to provide a timeline when asked.

Heather Ceron
Air Permitting Section Chief
Region 4 US EPA
(404)562-9185

Johnson, Terry

From: Davis, Scott
Sent: Thursday, February 11, 2016 10:54 AM
To: Shepherd, Lorinda; Johnson, Terry
Subject: Fwd: Sierra Club request for final Title V permit for Asheville coal plant
Attachments: 2016.02.09_ltr to WNCRAQA re Asheville SO2.pdf; ATT00001.htm

Sent from my iPhone

Begin forwarded message:

> **From:** "Ceron, Heather" <Ceron.Heather@epa.gov>
> **Date:** February 10, 2016 at 1:27:16 PM EST
> **To:** "Davis, Scott" <Davis.ScottR@epa.gov>
> **Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant**
>
> FYI
>
> **From:** Bridget Lee [mailto:bridget.lee@sierraclub.org]
> **Sent:** Tuesday, February 09, 2016 5:30 PM
> **To:** McTeerToney, Heather <McTeerToney.Heather@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>
> **Subject:** Sierra Club request for final Title V permit for Asheville coal plant
>
> Good afternoon,
>
> Please find attached Sierra Club's request that Western North Carolina Regional Air Quality Agency issue a final Title V permit for Duke Energy Progress' Asheville Steam Electric Plant on a timeline that comports with the requirements of the Clean Air Act and implementing regulations.
>
> While we understand the desire to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. As you know, WNCRAQA has yet to send a proposed permit to EPA.
>
> I'm happy to discuss further whenever might be convenient.
>
> Many thanks,
>
> Bridget
>
> --
> Bridget Lee
> Staff Attorney
> Sierra Club
> 50 F Street, NW, 8th Floor
> Washington, DC 20001

202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Johnson, Terry

From: Bridget Lee <bridget.lee@sierraclub.org>
Sent: Thursday, November 05, 2015 1:20 PM
To: Ceron, Heather
Cc: Kelly Martin; Julie Mayfield; Purvis, James; Johnson, Terry
Subject: Re: Duke SO2 check in

The nearest monitors are ~65 miles away, one to the west in Swain County and the other to the east in Caldwell County (see NC DENR DAQ website).

On Wed, Nov 4, 2015 at 2:13 PM, Ceron, Heather <Ceron.Heather@epa.gov> wrote:
We can use my call in number. (b) (5) [redacted] passcode (b) (5) [redacted]
Talk to you at 1:00 tomorrow.

Sent from my iPhone

On Nov 4, 2015, at 2:04 PM, Kelly Martin <kelly.martin@sierraclub.org> wrote:

I hope you are able to get back in your office soon!

Yes, let's move this to a conference call.

Best,
Kelly

On Wed, Nov 4, 2015 at 1:30 PM, Ceron, Heather <Ceron.Heather@epa.gov> wrote:
It looks like the building will be closed. Could we switch it to a conference call? I am so sorry for the inconvenience. The water and power are out and we do not have an estimate on when it will be back up.

Sent from my iPhone

On Nov 4, 2015, at 11:19 AM, Julie Mayfield <julie@mountaintrue.org> wrote:

Hi heather - if the building isn't open tomorrow would that mean we don't meet or that we meet somewhere else?

Julie

Sent from my iPhone

On Nov 4, 2015, at 10:56 AM, Ceron, Heather <Ceron.Heather@epa.gov> wrote:

Julie and Bridget,

The federal building is shut down today due to no water. I have a managers call at 1:15 today and will hopefully know if we will be open tomorrow. I will let you know as soon as possible.

Sent from my iPhone

On Nov 2, 2015, at 11:16 AM, Bridget Lee <bridget.lee@sierraclub.org> wrote:

> Thanks for checking in. I think an hour will be enough time. Looking forward to speaking with you all then.
>
> Bridget
>
> On Mon, Nov 2, 2015 at 10:44 AM, Ceron, Heather <Ceron.Heather@epa.gov> wrote:
>
> We can go longer if needed. Just let me know so we can reserve the room for the right length of time.
>
> **From:** Julie Mayfield [mailto:julie@mountaintrue.org]
> **Sent:** Monday, November 02, 2015 10:36 AM
> **To:** Ceron, Heather <Ceron.Heather@epa.gov>; Bridget Lee <bridget.lee@sierraclub.org>
> **Cc:** Kelly Martin <kelly.martin@sierraclub.org>; Purvis, James <Purvis.James@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>
> **Subject:** RE: Duke SO2 check in
>
> Yes – I think that is right. Bridget, is one hour enough time to have the conversation we need to have? I don't know that we need a call in number.
>
> **From:** Ceron, Heather [mailto:Ceron.Heather@epa.gov]
> **Sent:** Monday, November 2, 2015 10:07 AM
> **To:** Bridget Lee <bridget.lee@sierraclub.org>; Julie Mayfield <julie@mountaintrue.org>
> **Cc:** Kelly Martin <kelly.martin@sierraclub.org>; Purvis, James <Purvis.James@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>
> **Subject:** RE: Duke SO2 check in

All,

Just wanted to confirm our meeting this week. Are we set for November 5 from 1-2 at the Sam Nunn Building? Also do we need a call in number? I have one we can use if needed.

Thanks!

Heather

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Monday, October 19, 2015 11:59 AM
To: Julie Mayfield <julie@mountaintrue.org>
Cc: Ceron, Heather <Ceron.Heather@epa.gov>; Kelly Martin <kelly.martin@sierraclub.org>; Purvis, James <Purvis.James@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>
Subject: Re: Duke SO2 check in

I'll be flying in that morning, so afternoon would work best on my end. Can folks do 1:00PM?

Bridget

--

Bridget Lee

Staff Attorney

Sierra Club

50 F Street, NW, 8th Floor

Washington, DC 20001

202-675-6275

202-547-6009 (fax)

bridget.lee@sierraclub.org

On Mon, Oct 19, 2015 at 11:12 AM, Julie Mayfield <julie@mountaintrue.org> wrote:

How about meeting sometime between 11 and 2? There is something here in Asheville I would like to get back for by 6:00. In that window, what works best for folks?

Julie

From: Ceron, Heather [mailto:Ceron.Heather@epa.gov]
Sent: Friday, October 16, 2015 8:10 AM
To: Bridget Lee <bridget.lee@sierraclub.org>
Cc: Julie Mayfield <julie@mountaintrue.org>; Kelly Martin <kelly.martin@sierraclub.org>; Purvis, James <Purvis.James@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>
Subject: RE: Duke SO2 check in

November 5 should be good. Thanks!

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Thursday, October 15, 2015 4:28 PM
To: Ceron, Heather <Ceron.Heather@epa.gov>
Cc: Julie Mayfield <julie@mountaintrue.org>; Kelly Martin <kelly.martin@sierraclub.org>; Purvis, James <Purvis.James@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>
Subject: Re: Duke SO2 check in

Hi Heather,

Might November 5th work on your end?

Thanks,

Bridget

On Wed, Oct 14, 2015 at 4:05 PM, Ceron, Heather <Ceron.Heather@epa.gov> wrote:

Bridget,

Thank you for the email. Unfortunately the next two weeks are extremely hectic here. We are in the middle of our performance reviews and I have to have them all done for my group by the end of the month. I will also be at a meeting the week of the 27th. Would sometime the week of Nov. 2 work?

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Wednesday, October 14, 2015 3:56 PM
To: Julie Mayfield
Cc: Ceron, Heather; Kelly Martin; Purvis, James; Johnson, Terry
Subject: Re: Duke SO2 check in

Hi Heather,

My apologies for the delayed response. Would an afternoon next week work for your team? Kelly Martin and I are able to meet in person and I believe Julie can join by phone any day other than Wednesday.

Many thanks,

Bridget

--

Bridget Lee

Staff Attorney

Sierra Club

50 F Street, NW, 8th Floor

Washington, DC 20001

202-675-6275

202-547-6009 (fax)

bridget.lee@sierraclub.org

On Mon, Sep 28, 2015 at 3:23 PM, Julie Mayfield <julie@mountaintrue.org> wrote:

Thanks Heather. I'll get with my folks and send you a couple of dates.

From: Ceron, Heather [mailto:Ceron.Heather@epa.gov]
Sent: Monday, September 28, 2015 2:58 PM
To: Julie Mayfield <julie@mountaintrue.org>
Cc: Bridget Lee <bridget.lee@sierraclub.org>; Kelly Martin <kelly.martin@sierraclub.org>; Purvis, James <Purvis.James@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>
Subject: RE: Duke SO2 check in

Julie,

Please let me know sometimes that would work best for your group this week and next. We can look further out if we need to, but hopefully we can find a time that works for everyone sooner rather than later. Beverly most likely will not be able to join as this is a very busy time of year as we close out the fiscal year. However, the rest of us should be able to make it depending on timing. Also let me know if you prefer a conference call or a face to face.

Thanks!!!

From: Julie Mayfield [mailto:julie@mountaintrue.org]
Sent: Tuesday, September 22, 2015 3:07 PM
To: Ceron, Heather
Cc: Bridget Lee; Kelly Martin; Purvis, James; Johnson, Terry
Subject: RE: Duke SO2 check in

Thank you Heather – we will look forward to hearing from you about a time to talk with you, Beverly, and your team.

Julie

From: Ceron, Heather [mailto:Ceron.Heather@epa.gov]
Sent: Monday, September 21, 2015 5:01 PM
To: Julie Mayfield <julie@mountaintrue.org>
Cc: Bridget Lee <bridget.lee@sierraclub.org>; Kelly Martin <kelly.martin@sierraclub.org>; Purvis, James <Purvis.James@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>
Subject: RE: Duke SO2 check in

Julie,

We have not received the purposed permit yet. We have been in contact with WNCRAQA to make them aware that we will be targeting this permit for full review. We did receive the letter from Sierra Club to Beverly and have been reviewing it as well as the other documents you had sent so that we are well prepared to review the permit when it comes in.

As for meeting or a conference call, let me check in with Beverly to see if she would be available and I will get back to you.

Terry Johnson and James Purvis are the two staff folks I have working on this.

From: Julie Mayfield [mailto:julie@mountaintrue.org]
Sent: Monday, September 21, 2015 4:53 PM
To: Ceron, Heather
Cc: Bridget Lee; Kelly Martin
Subject: Duke SO2 check in

Hello Heather – I hope you are doing well. I am checking in on the Title V permit for the Duke plant up here – last we heard, WNCRAQA had not yet completed their review of comments, but I didn't know if you had heard any differently. I also wanted to flag for you a recent decision that we think might influence this permitting decision.

As you may know, Administrator McCarthy recently concluded that a narrative

standard in a SIP specifically prohibiting the exceedance of a NAAQS was an "applicable standard" necessitating permit conditions adequate to prevent such exceedances. For your convenience, I've attached that Order, as well as a letter sent by the Sierra Club to Beverly relating to the applicability of the Order to Title V permitting in North Carolina.

Given the parallel provision in North Carolina's SIP prohibiting the operation of an air pollution source in a manner that causes the exceedance of the NAAQS, *see* 15A N.C.A.C. § 2D.0501(c), MountainTrue and the Sierra Club would like to discuss with you the implications of the Administrator's decision on future permitting decisions in North Carolina. Please let us know if you and/or other members of your staff might be able to meet or be on a call in the coming weeks.

Thanks

Julie

Julie Mayfield, Co-Director

MountainTrue

29 N. Market Street, Suite 610

Asheville, NC 28801

828-258-8737, X202

www.mountaintrue.org

<image001.png>

MountainTrue's board, volunteers and professional staff focus on a core set of issues across 23 counties of Western North Carolina: sensible land use, restoring public forests protecting water quality and promoting clean energy – all of which have a high impact on the environmental health and long-term prosperity of our region. MountainTrue is the home of the French Broad Riverkeeper, the primary protector and defender of the French Broad River watershed.

--

Bridget Lee

Staff Attorney

Sierra Club

50 F Street, NW, 8th Floor

Washington, DC 20001

202-675-6275

202-547-6009 (fax)

bridget.lee@sierraclub.org

--

Bridget Lee
Staff Attorney

Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

--
Kelly Martin
Senior Campaign Representative
Beyond Coal Campaign, Sierra Club
828-423-7845

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

PART I - AIR QUALITY TITLE V OPERATION PERMIT

The Western North Carolina Regional Air Quality Agency (WNCRAQA), the United States Environmental Protection Agency (EPA), and citizens as defined under the Federal Clean Air Act have the authority to enforce the terms, conditions, and limitations contained in Part I of this permit unless otherwise specified.

Under WNCRAQA Code Chapter 17, the operation of emission source(s) and associated air pollution control device(s) listed in Part I of this permit is based on plans, specifications, operating parameters, and other information as submitted in the Air Quality Permit Application.

SECTION 1 - PERMITTED EMISSION SOURCE(S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S)

The following table contains a summary of all permitted emission sources and associated air pollution control devices:

Emission Source ID	Emission Source Description	Control Device ID	Control Device Description
Unit 1 Boiler	One (1) 2,155 million BTU per hour (nominally rated) Riley Stoker pulverized coal-fired boiler equipped with low NO_X burners and alkaline-based fuel additive[1]	Unit 1 SCR	One (1) selective catalytic reduction system[2]
		Unit 1 ESP	One (1) electrostatic precipitator
		Unit 1 FGD	One (1) flue gas desulfurization system[3]
Unit 2 Boiler	One (1) 2,102 million BTU per hour (nominally rated) Babcock & Wilcox pulverized coal-fired boiler equipped with low NO_X burners and alkaline-based fuel additive[1]	Unit 2 SCR	One (1) selective catalytic reduction system[2]
		Unit 2 ESP	One (1) electrostatic precipitator
		Unit 2 FGD	One (1) flue gas desulfurization system[3]
Unit 3 IC Turbine	One (1) 1,929 million BTU per hour (nominally rated) General Electric natural gas / No. 2 fuel oil-fired simple cycle internal combustion turbine	NA	NA
Unit 4 IC Turbine	One (1) 1,929 million BTU per hour (nominally rated) General Electric natural gas / No. 2 fuel oil-fired simple cycle internal combustion turbine	NA	NA
Limestone Crusher	One (1) 150-ton per hour crusher	LC-BF-1	One (1) bagfilter

[1] Alkaline-based fuel additive may be used on an as-needed basis not to exceed 4 pounds per ton of coal burned. Fuel additives shall not contain any toxic air pollutants listed in WNCRAQA Code 17.0711. Fuel additive products not equivalent to those specified in the Application Addendum dated November 4, 2010 are not allowed without a permit modification.

[2] For ozone season NO_X control and compliance with the North Carolina Clean Smokestacks Act (SB 1078 – Air Quality / Electric Utilities Bill). To be operated on an as needed basis. A sulfur trioxide (SO_3) mitigation system can be used when needed in conjunction with each SCR.

[3] For compliance with the North Carolina Clean Smokestacks Act (SB 1078 – Air Quality / Electric Utilities Bill). To be operated on an as-needed basis.

Emission Source ID	Emission Source Description	Control Device ID	Control Device Description
Limestone Conveyor 1	One (1) 150-ton per hour belt conveyor measuring 270 feet x 24 inches	NA	NA
Limestone Conveyor 2	One (1) 150-ton per hour belt conveyor measuring 408 feet x 24 inches	CONV-BF-2	One (1) bagfilter
Limestone Conveyor 3	One (1) 150-ton per hour belt conveyor measuring 44 feet x 24 inches	NA	NA
Limestone Bin 1	One (1) 400-ton capacity storage bin	LDB-BF-1	One (1) bagfilter
Limestone Bin 2	One (1) 400-ton capacity storage bin	LDB-BF-2	One (1) bagfilter
Sorbent 1	One (1) 40-50-ton capacity sorbent receiving trailer	SORB-DC-1	One (1) dust collector controlling Sorbent 1 and Sorbent 2
Sorbent 2	One (1) approximately 18-ton capacity sorbent metering trailer		
Emergency Generator 1	One (1) diesel-fired emergency-use generator with a rated output capacity of 380 horsepower	NA	NA
Fire Pump Engine 1	One (1) diesel-fired emergency-use fire pump engine with a rated output capacity of 370 horsepower	NA	NA

SECTION 2 - SPECIFIC CONDITIONS AND LIMITATIONS

The emission sources and associated air pollution control devices listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

2.1 - Emission Source ID Unit 1 Boiler & Unit 2 Boiler

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Sulfur dioxide	26,880 pounds per 24-hour block period for Unit 1 Boiler 26,880 pounds per 24-hour block period for Unit 2 Boiler	WNCRAQA Code 4.0501(c)
	2.3 pounds per million BTU heat input	WNCRAQA Code 4.0516
	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
	Phase II Acid Rain Permit Requirements (see Section 4)	WNCRAQA Code 17.0402

Regulated Pollutant	Limits / Standards	Applicable Regulation
Nitrogen oxides	When burning only oil or natural gas - 0.8 pounds per million BTU heat input; When burning only coal - 1.8 pounds per million BTU heat input; When burning both coal and oil or natural gas in combination - as calculated by the equation E = [(Ec)(Qc) + (Eo)(Qo)] / Qt, where: E = emission limit in pounds per million BTU heat input Ec = 1.8 pounds per million BTU heat input Eo = 0.8 pounds per million BTU heat input Qc = coal heat input in BTU per hour Qo = oil and gas heat input in BTU per hour Qt = Qc + Qo	WNCRAQA Code 4.0519
Nitrogen oxides	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
	Phase II Acid Rain program requirements (see Section 4)	WNCRAQA Code 17.0402
Visible emissions	40 percent opacity	WNCRAQA Code 4.0521
	Local-enforceable only: Unit 1 Boiler - 10 percent annual average opacity; Unit 2 Boiler - 5 percent annual average opacity	WNCRAQA Code 4.0536
Particulate matter	0.12 pounds per million BTU heat input	WNCRAQA Code 4.0536
Mercury	See Section 2.1(J)	WNCRAQA Code 4.2500
Excess emissions	Malfunction abatement plan	WNCRAQA Code 4.0535
Various	As defined in specific condition	WNCRAQA Code 4.0530(u)
Hazardous Air Pollutants	As defined in specific condition	WNCRAQA Code 4.1111 (40 CFR 63, Subpart UUUUU)
Toxic air pollutants	Local-enforceable only: Recycled oil specifications	WNCRAQA Code 17.0700
	Local-enforceable only: Unit 1 Boiler - Waste oils / solvents specifications	
	Local-enforceable only: Boiler tube cleaning solution specifications	

(A) WNCRAQA CODE 4.0501(c) – COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0501(c)]
Emissions of sulfur dioxide from the Unit 1 Boiler shall not exceed 26,880 pounds per 24-hour block period. Emissions of sulfur dioxide from the Unit 2 Boiler shall not exceed 26,880 pounds per 24-hour block period.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0608(e) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(A)(1) above, the Permittee shall

determine sulfur dioxide emissions for each boiler in pounds per 24-hour block period using a CEMS meeting the requirements of 40 CFR Part 75, except that the data reported shall not include data substituted using the missing data procedures in Subpart D of 40 CFR 75, nor shall the data have been bias adjusted according to the procedures of 40 CFR Part 75. Compliance with the sulfur dioxide emission limitation shall be determined by summing the hourly CEMS values for each boiler in pounds of sulfur dioxide over a 24-hour block period beginning at midnight. The minimum number of data points, shall be determined by 40 CFR Part 75. If any 24-hour block total exceeds the mass emissions limits given in Section 2.1(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0501(c).

(3) **Reporting** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values for each boiler in pounds of sulfur dioxide per 24-hour for each 24-hour block period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(4) **Reporting/CEMS Availability** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit sulfur dioxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(B) **WNCRAQA CODE 4.0516 - SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0516 & 17.0508(b)]
Emissions of sulfur dioxide from each source shall not exceed 2.3 pounds per million BTU heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

(2) **Testing** [WNCRAQA Code 4.2611]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2611 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(B)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0516.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0608(e) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(B)(1) above, the Permittee shall determine sulfur dioxide emissions in pounds per million BTU using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the sulfur dioxide emission limitation shall be determined by averaging hourly CEMS values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any 24-hour block average exceeds the limitation given in Section 2.1(B)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0516.

(4) **Reporting** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(5) **Reporting/CEMS Availability** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit sulfur dioxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(C) WNCRAQA CODE 4.0519 - CONTROL OF NITROGEN DIOXIDE AND NITROGEN OXIDES EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0519 & 17.0508(b)]
Emissions of nitrogen oxides from each source shall not exceed 0.8 pounds per million BTU heat input when combusting oil or natural gas alone. Emissions of nitrogen oxides from these sources shall not exceed 1.8 pounds per million BTU heat input when combusting coal alone. Emissions of nitrogen oxides from these sources when combusting both coal and oil or natural gas in combination shall not exceed the limit calculated by the following equation:

$$E = [(Ec)(Qc) + (Eo)(Qo)] / Qt,$$

where:
E = emission limit for combination in pounds per million BTU
Ec = 1.8 pounds per million BTU heat input for coal only
Eo = 0.8 pounds per million BTU heat input for oil or natural gas
Qc = actual coal heat input to the combination in BTU per hour
Qo = actual oil and natural gas heat input to the combination in BTU per hour
Qt = Qc + Qo.

(2) **Testing** [WNCRAQA Code 4.2612]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2612 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0519.

(3) **Monitoring** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
To assure compliance with the limitations given in Section 2.1(C)(1) above, the Permittee shall determine nitrogen oxide emissions in pounds per million BTU using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the nitrogen oxides emission limitations shall be determined by averaging hourly CEMS values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75.

For monitoring purposes, the following emission limits apply:

(a) When only coal is burned, the emission limit shall be 1.8 pounds per million BTU heat input;

(b) When only oil or natural gas is burned, the emission limit shall be 0.8 pounds per million BTU heat input; or

(c) When oil or natural gas is burned other than for startup and for periods greater than 24 hours, the emission limit shall be calculated according to the equation in Section 2.1(B)(1) above.

If any 24-hour block average exceeds the limitations given in Section 2.1(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0519.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
Records (written or electronic format) of monthly coal, oil, and natural gas consumption shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(5) **Reporting** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(6) **Reporting/CEMS Availability** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The Permittee shall submit nitrogen oxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(D) WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0521(c) & 17.0508(b)]
Visible emissions from each source shall not exceed 40 percent opacity when averaged over a six-minute period.

(2) **Testing** [WNCRAQA Code 4.2610]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(D)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0521(g), 4.0606, 4.0612, & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(D)(1) above, the Permittee shall either:

- install, maintain, and operate a COMS for measuring the opacity of emissions (and follow the COMS Monitoring Option), or

- install, maintain, and operate a PM CEMS (and follow the PM CEMS Monitoring Option).

The Permittee shall submit a written notification to the WNCRAQA at least 30 days before changing the compliance monitoring option.

(a) <u>COMS Monitoring Option</u>
When using this option, the Permittee shall determine opacity using a COMS meeting the requirements of Appendix P of 40 CFR Part 51 and/or 40 CFR Part 75. Compliance with the opacity limitation shall be calculated using six-minute averages of the COMS values. Excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under WNCRAQA Code 4.0535:

(i) No more than 4 six-minute periods shall exceed the opacity limitation in any one day; and

(ii) The percent of excess emissions (defined as the percentage of monitored operating time in a calendar quarter above the opacity limit) shall not exceed 0.8 percent of the total operating hours. If a source operates less than 500 hours during a calendar quarter, the percent of excess emissions shall be calculated by including hours operated immediately previous to this quarter until 500 operational hours are obtained.

(b) <u>PM CEMS Monitoring Option</u>
When using this option, opacity shall be measured by conducting Method 9 performance tests in accordance with §60.45(b)(7) following the schedule in §60.45(b)(7)(i). Records shall be maintained according to the requirements specified in §60.45(h)(1) for all Method 9 performance tests required. The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521 if the monitoring is not performed, if the monitored values exceed the limitations given above, or if the records are not maintained. For the purposes of this condition, it is not necessary to submit a testing protocol prior to the scheduled test date, as specified in General Condition JJ, if no changes are being made to the most recently approved previous protocol used for Method 9 testing under this condition. If the most recently approved previous protocol is to be used for testing, it shall be submitted with the test report. Excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under WNCRAQA Code 4.0535:

(i) No six-minute period shall exceed 90 percent opacity;

(ii) No more than 1 six-minute period shall exceed the opacity limitation in any one hour; and

(iii) No more than 4 six-minute periods shall exceed the opacity limitation in any one day.

(4) <u>Reporting</u> [WNCRAQA Code 4.0606 & 17.0508(f)]

(a) <u>COMS Monitoring Option</u>
When using this option, the Permittee shall submit excess emissions and monitor downtime reports as required under Appendix P of 40 CFR Part 51 no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. For periods of excess emissions, defined as each six-minute period average greater than 40 percent opacity, the opacity measurements recorded by the COMS shall be reported as described in Paragraphs 4.0 and 5.1 of Appendix P of 40 CFR Part 51 except that a six-minute time period shall be deemed as an appropriate alternative opacity averaging

period as described in Paragraph 4.2 of Appendix P of 40 CFR Part 51. A minimum of 36 data points, equally spaced, is required to determine a valid six-minute value. All instances of deviations from the requirements of this permit must be clearly identified.

(b) PM CEMS Monitoring Option
When using this option, the Permittee shall report the results of all Method 9 performance tests (required during the reporting period per the schedule in §60.45(b)(7)(i)) with the excess emissions and monitoring system performance reports no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(E) WNCRAQA CODE 4.0536 - PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS (ANNUAL AVERAGE OPACITY REQUIREMENTS - LOCAL-ENFORCEABLE ONLY)

(1) Emission Limitation/Standard [WNCRAQA Code 4.0536(b) & 17.0508(b)]
In addition to the limit given in Section 2.1(D)(1) above, visible emissions from the utility boiler units shall not exceed the following annual average opacity limits:

- Unit 1 Boiler - 10 percent; and

- Unit 2 Boiler - 5 percent.

(2) Testing [WNCRAQA Code 4.2609]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2609 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(E)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(3) Monitoring/Recordkeeping [WNCRAQA Code 4.0536(g) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(E)(1) above, the Permittee shall follow either the COMS Monitoring Option or the PM CEMS Monitoring Option (described in Section 2.1(C)(3)).

(a) COMS Monitoring Option
When using this option, the Permittee shall determine opacity using a COMS meeting the performance specifications of Appendix B of 40 CFR Part 60. Each day an annual average opacity value shall be calculated for each unit for the most recent 365-day period ending with the end of the previous day. The average is the sum of the measured non-overlapping six-minute averages of opacity determined only while the unit is in operation divided by the number of such measured non-overlapping six-minute averages. Startup, shutdown, and non-operating time shall not be included in the annual average opacity calculation, but malfunction time shall be included.

(b) PM CEM Monitoring Option
When using this option, the Permittee shall calculate each day an annual average opacity value for the most recent 365-day period ending with the end of the previous day. The average is the sum of the measured non-overlapping one-hour averages of opacity determined only while the unit is in operation divided by the number of such measured non-overlapping one-hour averages. Start-up, shut-down, and non-operating time shall not be included in the annual average opacity calculation, but malfunction time shall be included. The hourly opacity values shall be determined using the PM CEMS hourly average output values as

follows:

$$\text{Opacity, average for each hour} = \frac{(\text{Actual PM CEMS Output, average for each hour})(\text{Z, Opacity})}{(\text{Y, mg/m}^3)}$$

where: Y = The PM CEMS output value (mg/m^3) established during the initial PM CEMS PS-11 certification procedure that corresponds to 0.03 lb PM/MMBtu

Z = 5% opacity

(c) For periods of less than 365 days of operation using either the COM Monitoring Option or the PM CEMS Monitoring Option exclusively, the AAO shall be calculated as follows:

$$\text{AAO} = \frac{\sum_{i=1}^{Z}(\text{6 minute COMS block i}) + \left(\sum_{j=1}^{Y}(\text{1 hour PM CEMS block j})(\text{10 six - minute blocks / 1 hour block})\right)}{Z + 10Y}$$

where: Z = Number of six-minute COM blocks of data within the 365-day look-back period

Y = Number of one-hour PM CEMS blocks of data within the 365-day look-back period

Note: 6 minute COMS block i and 1 hour PM CEMS block j refer to the opacity measurements determined from the COMS and PM CEMS, respectively.

(4) **Reporting** [WNCRAQA Code 4.0536(b) & 17.0508(f)]

(a) **COM Monitoring Option**
When using this option, the Permittee shall submit a report by the 30th day following the end of each month showing, for each day of the previous month, the calculated annual average opacity of each unit and the annual average opacity limit.

(b) **PM CEM Monitoring Option**
When using this option, the Permittee shall submit a report showing the calculated annual average opacity of each unit and the annual average opacity limit for each day during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

Quarterly excess emissions reports shall be used as an indication of good operation and maintenance of the electrostatic precipitators. These sources shall be deemed to be properly operated and maintained if the calculated one-hour average PM concentrations (mg/m^3) exceed the concentration (mg/m^3) corresponding to 0.03 pounds per million Btu heat input less than 3.0 percent of the total operating time, adjusted for monitor downtime, for any given calendar quarter. In addition, these sources shall be deemed to be properly operated and maintained if monitor downtime does not exceed 25 percent (10 percent beginning on January 1, 2012) for any given calendar quarter. If monitor downtime is greater than 2 percent for any given calendar quarter, the Permittee shall provide a full explanation in the

quarterly excess emissions report, including actions taken to reduce monitor downtime to below 2 percent.

(F) WNCRAQA CODE 4.0536 - PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS (PARTICULATE MATTER REQUIREMENTS)

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0536(b) & 17.0508(b)]
Emissions of particulate matter from each utility boiler unit shall not exceed 0.12 pounds per million BTU of heat input.

(2) **Testing** [WNCRAQA Code 4.2609 & 4.0536(e)]
The Permittee shall produce each year for each unit at least one stack test for particulate matter in accordance with Method 5B of Appendix A of 40 CFR Part 60 and General Condition JJ. In the event that a boiler exceeds 80 percent of its particulate emission limit during the stack test, the Permittee shall schedule and conduct another stack test within 6 months. Upon demonstration that the source is operating under 80 percent of its particulate limit, as shown by three consecutive semiannual stack tests, the source may resume annual stack tests. If the results of any test are above the limit given in Section 2.1(F)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0614 & 17.0508(f)]
In addition to the stack test required in Section 2.1(F)(2) above, to provide a reasonable assurance of compliance with the limitation given in Section 2.1(F)(1) above, the Permittee shall follow either the COMS Monitoring Option or the PM CEMS Monitoring Option (described in Section 2.1(D)(3)).

(a) **COM Monitoring Option**
When using this option, the Permittee shall determine opacity using a COMS meeting the requirements of Appendix P of 40 CFR Part 51 and/or 40 CFR Part 75. Any opacity value in excess of the following indicator ranges shall be deemed an excursion as defined in 40 CFR Part 64:

- Unit 1 Boiler - 14 percent; and

- Unit 2 Boiler - 9 percent

The appropriate averaging period for which an excursion shall be determined is each 3-hour block average of six-minute opacity averages beginning at midnight (total of eight 3-hour block periods each day). Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for data averages and calculations. The Permittee shall use all the data collected during all other periods in assessing the operation of the ESP.

For any excursion, the Permittee shall initiate an inspection of the control equipment and/or COMS, as appropriate, and make any necessary repairs. In addition to implementing procedures outlined in the malfunction abatement plan required under WNCRAQA Code 4.0535, the following corrective actions shall be taken:

(i) Control operator shall notify the shift supervisor or responsible official (plant manager or representative) in accordance with plant procedures;

(ii) System dispatcher shall be alerted if load reductions are anticipated;

(iii) The following operating practices and procedures shall be initiated as necessary:

- Identify cause of excursion;

- Isolate ESP field or increase power input to other fields if necessary;
- Reduce load, as necessary, to help minimize emissions;
- Proceed to shutdown or confirm malfunction conditions exist if emissions can not be controlled appropriately;
- Initiate work order for ESP inspection and repair as needed;

(iv) Nature and cause of excursion shall be documented in operations log;

(v) Provide notification to WNCRAQA as necessary.

If 5 percent or greater of COMS data (excluding startup, shutdown, and malfunction periods) recorded in a calendar quarter exceed the opacity values listed above, a stack test shall be performed in the following calendar quarter to demonstrate compliance with the limitation given in Section 2.1(F)(1) above. In the event that a unit exceeds 80 percent of its particulate emission limit during the stack test, the Permittee shall schedule and conduct another stack test within 6 months. Upon demonstration that the source is operating under 80 percent of its particulate limit, as shown by three consecutive semiannual stack tests, the source may resume annual stack tests. If a source operates less than 2,200 hours during any quarter, the source may evaluate 3-hour opacity values using operating data for the current quarter and the preceding quarters until 2,200 hours of data are obtained. If the result of any stack test is greater than any limit given in Section 2.1(F)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(b) <u>PM CEM Monitoring Option</u>
When using this option, compliance with the particulate limit in Section 2.1(F)(1) shall be determined using the PM CEMS. A measured exceedance of 0.10 pounds per million Btu of heat input (24-hour daily arithmetic average) shall be a violation of the corresponding emission standards in Section 2.1(E)(1).

(i) Each PM CEMS shall meet the requirements of Performance Specification PS-11 of Appendix B of 40 CFR Part 60, and shall be installed, evaluated, operated, and maintained according to the applicable requirements in §60.49Da(v), §§60.45(b)(5), (b)(7), and (g)(4). The Permittee shall have on file with the Director an approved quality assurance program, and shall submit to the director within the time period of his request for his approval a revised quality assurance program to include the provisions of 40 CFR 60, Appendix F, Procedure 2 for the PM CEMS.

(ii) The initial performance evaluation shall be completed no later than 180 days after the date of notification to the WNCRAQA of the first instance the Permittee selects the compliance PM CEMS Monitoring Option.

(iii) The PM emission rate shall be determined based on a 24-hour daily (block) average of the hourly arithmetic average emissions concentrations using the CEMS outlet data each boiler operating day, except for data obtained during startup, shutdown, and malfunction. Averages are only calculated for boiler operating days that have valid data for at least 18 hours of unit operation during which the standard applies. All valid hourly emission rates on operating days not meeting the minimum 18-hour requirement shall be averaged with all of the valid hourly emission rates of the next boiler operating day meeting the minimum 18-hour requirement. The 24-hour block arithmetic average emission concentration shall be calculated using EPA Reference Method 19 of Appendix A of 40 CFR Part 60, section 12.4.1.

(iv) At a minimum, valid PM CEMS hourly averages shall be obtained for 75 percent of all operating hours on a 30-day rolling average basis. Beginning on January 1, 2012, valid PM CEMS hourly averages shall be obtained for a minimum of 90 percent of all operating hours on a 30-day rolling average basis. At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(v) The 1-hour arithmetic averages of PM CEMS data shall be expressed in pounds per million Btu and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of Subpart A of 40 CFR Part 60.

(vi) All valid PM CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph iv above are not met.

(vii) When PM emissions data are not obtained because of PM CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the WNCRAQA or EPA Reference Method 19 of Appendix A of 40 CFR Part 60 to provide, as necessary, valid emissions data for a minimum of 90 percent (only 75 percent is required prior to January 1, 2012) of all operating hours per 30-day rolling average.

(4) **Reporting** [WNCRAQA Code 4.0536(b), 4.0614, & 17.0508(f)]
The results of any stack test required in Section 2.1(F)(2) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. All instances of deviations from the requirements of this permit must be clearly identified.

(a) **COMS Monitoring Option**
When using this option, the results of any stack test required in Section 2.1(F)(3) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. In addition, the Permittee shall submit the following reports as required under §64.9 of 40 CFR Part 64 no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September:

(i) Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; and

(ii) Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable).

(b) **PM CEMS Monitoring Option**
When using this option, the Permittee shall submit excess emissions and monitoring system performance reports for PM no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. The report shall include, at a minimum, the information required in 40 CFR 60.7(c) and shall include all 24-hour daily (block) average excess emissions (pounds per million Btu) using the CEMS outlet data, including periods exempted during startup, shutdown, and malfunction. Within 15 days of a written request, report all PM CEMS hourly averages (in written or electronic form) to show, at a minimum, that valid PM CEMS hourly averages have been obtained for 90 percent

(only 75 percent is required prior to January 1, 2012) of all operating hours on a 30-day rolling average basis.

(G) WNCRAQA CODE 4.0535 - EXCESS EMISSIONS REPORTING AND MALFUNCTIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0535(d) & 17.0508(b)]
All electric utility boiler units shall have a malfunction abatement plan approved by the Director as specified in WNCRAQA Code 4.0535(d).

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0535(d) & 17.0508(f)]
The Permittee shall maintain logs to show that the operation and maintenance sections of the malfunction abatement plan are implemented. These logs (written or electronic format) shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(H) WNCRAQA CODE 4.1111 - MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT - 40 CFR PART 63 SUBPART UUUUU)

The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with WNCRAQA Code 4 .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40CFR Part 63, Subpart UUUUU.

(I) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (RECYCLED OIL SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) **Emission Limitation/Standard** [WNCRAQA Code 17.0317(a)(8), 17.0700, & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, any recycled oil combusted in either Unit 1 Boiler or Unit 2 Boiler to replace No. 2 fuel oil for light-off and flame stabilization shall be shown equivalent to unadulterated fossil fuel prior to combustion by meeting the following criteria:

Constituent / Property	Allowable Level
Arsenic	1 ppm maximum
Cadmium	2 ppm maximum
Chromium	5 ppm maximum
Lead	100 ppm maximum
Total Halogens	1,000 ppm maximum
Flash Point	100°F minimum
Sulfur	1.0% maximum
Ash	1.0% maximum

The Permittee is responsible for ensuring that the recycled oil meets the approved criteria for unadulterated fuel. The Permittee is held responsible for any discrepancies discovered by WNCRAQA as a result of any sampling and analysis of the oil.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 17.0317(b) & 4.0605]
The Permittee shall maintain at the facility for a minimum of three years, and shall make available to an authorized WNCRAQA representative upon request, accurate records of the following:

(a) The actual amount of recycled oil delivered to, and combusted at the facility on an annual basis; and

(b) Each load of recycled fuel oil received shall include the following:

(i) A delivery manifest document clearly showing the shipment content and amount, its

place and date of loading, and place and date of destination;

(ii) A batch specific analytical report that contains an analysis for all constituents/properties listed above. Analytical results of the samples representative of the recycled oil shipment from the vendor shall be no more than one year old when received;

(iii) Batch signature information consisting of the following: a batch number, tank identification with batch volume of recycled oil, date and time the batch completed treatment, and volume(s) delivered; and

(iv) A certification indicating that the recycled fuel oil does not contain detectable PCBs (< 2 ppm).

WNCRAQA reserves the right to require additional monitoring and/or recordkeeping of the recycled oil without notice.

(3) **Reporting** [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall submit a summary report of the total recycled oil combusted and the results of the analytical testing by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

(J) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (WASTE OILS / SOLVENTS SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) **Emission Limitation/Standard** [WNCRAQA Code 17.0317(a)(8), 17.0700 & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, waste oils (either petroleum-derived or synthetic, used as a lubricant, hydraulic fluid, metal working fluid, insulating fluid, or coolant) and solvents (including acetone, methanol, methyl ethyl ketone, toluene, varsol, xylene, and waste solvent mixtures containing less than 10 percent (by volume) of any non-halogenated solvent not listed above as referenced by 40 CFR 261.31) shall only be combusted in Unit 1 Boiler as a waste disposal method according to the following conditions and stipulations:

(a) Only those waste oils / solvents generated at the Asheville, Marshall, or Walters sites may be combusted;

(b) No more than 100 gallons of plant employees used oil may be combusted in any calendar year;

(c) Total halogen content shall not exceed 1,000 micrograms per gram (parts per million);

(d) Total lead content shall not exceed 250 micrograms per gram (parts per million);

(e) Total PCB content of any insulating fluid or coolant shall not exceed 49 parts per million;

(f) Waste oils / solvents shall not be combusted during periods of startup, shutdown, or malfunction; and

(g) Total waste oils / solvents feed rate shall not exceed 300 gallons per hour and 10,000 gallons per calendar year.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall conduct monitoring/recordkeeping according to the following:

(a) A daily record of the amount of waste oils / solvents combusted shall be maintained onsite and made available to an authorized WNCRAQA representative upon request; and

(b) Chemical analysis conducted on waste oils / solvents combusted shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(3) Reporting [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall submit a summary report of the amount of waste oils / solvents combusted by January 30 of each calendar year for the preceding twelve-month period between January and December.

(K) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (BOILER TUBE CLEANING SOLUTION SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) Emission Limitation/Standard [WNCRAQA Code 17.0317(a)(8), 17.0700 & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, any boiler tube cleaning solution (such as ammonia / citric acid , ammoniated EDTA, ammonium persulfate, or similar materials upon request and approval of the Director) evaporated in either Unit 1 Boiler or Unit 2 Boiler shall be limited to a 145-gallon per minute maximum injection rate.

(2) Monitoring/Recordkeeping [WNCRAQA Code 17.0317(b) & 17.0508(f)]
A daily record of the amount of boiler tube cleaning solution injected in each boiler shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(3) Reporting [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall notify WNCRAQA at least five days prior to boiler tube cleaning solution evaporation.

(L) WNCRAQA CODE 4.2500 - MERCURY RULES FOR ELECTRIC GENERATORS - LOCAL-ENFORCEABLE ONLY

Note: Sections 4.2509 and .2511 are local-enforceable. All other sections of 4.2500 will not be enforced at this time.

(1) Emission Limitation/Standard [WNCRAQA Code 4.2503(a) & 40 CFR 60.4106(f)]
Emissions of particulate matter from each utility boiler unit shall not exceed the following allocations:

(a) Unit 1 Boiler - 2010 - 2017: 621 ounces
- 2018 and later: 250 ounces; and

(b) Unit 2 Boiler - 2010 - 2017: 575 ounces
- 2018 and later: 232 ounces.

(2) Monitoring/Recordkeeping/Reporting [WNCRAQA Code 4.2503, .2505(a) and .2511]
(a) The emissions of mercury of an Hg budget source shall not exceed the number of allowances that it has in its compliance account according to Rule .2510 of this Section.

(b) The emissions measurements recorded and reported according to 40 CFR 60.4170 through 60.4176 shall be used to determine compliance by each source identified in this rule with its emissions limitation according to 40 CFR 60.4106(c).

(c) The provisions of 40 CFR 60.4106(d) shall be used for excess emissions.

(d) The owner or operator of a Hg budget unit covered under this Section shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 60.4106(b) and (e) and in

40 CFR 60.4170 through 60.4176.

(e) The Permittee shall comply with all applicable requirements of 15A NCAC 2D .2511 "Mercury Emission Limits."

(M) WNCRAQA CODE 4.0530(u) - USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

(1) Use of Projected Actual Emissions [WNCRAQA Code 4.0530(u)]
Pursuant to WNCRAQA Code 4.0530(u), the Permittee relied on the use of projected actual emissions to demonstrate that the replacement of the economizer inlet header, upper and lower tube bundles, and intermediate header at the reheat bypass wall in Unit 1 Boiler would not result in a significant emissions increase. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, recordkeeping, and reporting requirements in Sections 2.1(M)(2) through (4) below.

(2) Testing [WNCRAQA Code 4.2601]
If emissions testing is required, the testing shall be performed in accordance General Condition JJ.

(3) Recordkeeping [WNCRAQA Code 4.0530(u)]
The Permittee shall maintain records of actual emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide, volatile organic compounds, particulate matter (PM), particulate matter having a nominal aerodynamic diameter of 10 micrometers or less (PM_{10}), particulate matter having a nominal aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), sulfuric acid (H_2SO_4), and greenhouse gases (GHG) in tons per year on a calendar year basis for each of the five years following the resumption of regular operations after the replacements described in Section 2.1(M)(1) are made (but not including the initial shakedown period, not to exceed 180 days).

(4) Reporting [WNCRAQA Code 4.0530(u)]
The results of any stack test required in Section 2.1(M)(2) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. All instances of deviations from the requirements of this permit must be clearly identified. The Permittee shall submit a report of the emissions of all pollutants listed in Section 2.1(M)(3) to the Director within 60 days after the end of each calendar year during which the records in Section 2.1(M)(3) must be generated.

2.2 - Emission Source ID Unit 3 IC Turbine & Unit 4 IC Turbine

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Sulfur dioxide	40 tons SO_2 per consecutive 12-month period; 0.05 percent by weight sulfur content of No. 2 fuel oil;	WNCRAQA Code 4.0530
	0.8 percent by weight sulfur content of all fuels	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart GG)
Particulate matter	25 tons PM per consecutive 12-month period; 15 tons PM_{10} per consecutive 12-month period;	WNCRAQA Code 4.0530

Regulated Pollutant	Limits / Standards	Applicable Regulation
Nitrogen oxides	0.0103 percent (103 ppm) by volume at 15 percent oxygen and on a dry basis for natural gas combustion; 0.0101 percent (101 ppm) by volume at 15 percent oxygen and on a dry basis for No. 2 fuel oil combustion	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart GG)
	13,725 tons NO_X per consecutive 12-month period	WNCRAQA Code 4.0530
	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
Visible emissions	20 percent opacity	WNCRAQA Code 4.0521

(A) **WNCRAQA CODE 4.0530 - PREVENTION OF SIGNIFICANT DETERIORATION (SULFUR DIOXIDE AND PARTICULATE MATTER REQUIREMENTS)**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0530(g), 17.0317(a)(1), & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 4.0530(g) for major sources and major modifications, the following limitations shall apply:

(a) Both sources shall emit no more than 40 tons of sulfur dioxide (SO_2) per consecutive 12-month period;

(b) The No. 2 fuel oil combusted in both sources shall not exceed 0.05 percent by weight sulfur content; and

(c) Both sources shall emit no more than 25 tons of particulate matter (PM) per consecutive 12-month period.

(d) Both sources shall emit no more than 15 tons of particulate matter having a nominal aerodynamic diameter of 10 micrometers or less (PM_{10}) per consecutive 12-month period.

(2) **Testing** [WNCRAQA Code 4.2600]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2600 and General Condition JJ. If the results of this test are above the limit given in Section 2.2(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(3) **Monitoring** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
To assure compliance with the limitations given in Section 2.2(A)(1) above, the Permittee shall monitor the following:

(a) The hourly fuel-specific heat input measured in accordance with 40 CFR Part 75;

(b) The sulfur content of No. 2 fuel oil combusted in each combustion turbine as specified in §60.334(i) of 40 CFR Part 60, using the test methods and procedures in §60.335(b)(10) and (11);

(c) The calculated monthly SO_2, PM and PM_{10} emissions based on the hourly fuel-specific heat input monitored per Section 2.2(A)(3)(a), the fuel sulfur content monitored per Section 2.2(A)(3)(b), and the PM and PM_{10} emission factors established by the May 6-9, 2008 emissions testing; and

(d) The annual SO_2, PM and PM_{10} emissions for each consecutive 12-month period.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
Records (written or electronic format) of the above monitoring shall be maintained onsite and made available to an authorized WNCRAQA representative upon request. The records shall include the following:

(a) The date and time of the required monitoring; and

(b) The input parameters and results of the required monitoring noting whether or not noncompliant conditions were observed.

(5) **Reporting** [WNCRAQA Code 17.0508(f)]
The Permittee shall submit a summary report of monitoring and recordkeeping activities, including the total SO_2, PM and PM_{10} emissions for each month and each consecutive 12-month period in the reporting period, postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(B) WNCRAQA CODE 4.0524 - NEW SOURCE PERFORMANCE STANDARDS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0524(a) & 17.0508(b)]
As specified in §60.332(a)(1) of 40 CFR Part 60, emissions of nitrogen oxides from each source shall not exceed 0.0103 percent (103 ppm) by volume at 15 percent oxygen and on a dry basis for natural gas combustion and 0.0101 percent (101 ppm) by volume at 15 percent oxygen and on a dry basis for No. 2 fuel oil combustion. As specified in §60.333(b), fuel combusted in each source shall not contain sulfur in excess of 0.8 percent by weight.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0524(a) and 17.0508(f)]
To assure compliance with the limitations given in Section 2.2(B)(1) above, the Permittee shall:

(a) Monitor sulfur content of the No. 2 fuel oil being combusted in each combustion turbine according to §60.334(h) and using the test methods and procedures in §60.334(h)(1) and §60.335 (b)(10-11); and

(b) As required by §60.334(a), using the procedures in §60.335, for each combustion turbine, install and operate a continuous monitoring system to monitor and record fuel consumption and the ratio of water-to-fuel being combusted. The monitoring device shall be calibrated and maintained in accordance with the procedures in §60.334(g).

(3) **Reporting** [WNCRAQA Code 4.0524(a) & 17.0508(f)]
The Permittee shall conduct reporting according to the following:

(a) For the purpose of reports required under §60.7(c), periods of excess emissions for sulfur dioxide shall be reported for any daily period during which the sulfur content of the fuel being combusted exceeds 0.05 percent by weight based on a 12-month rolling average;

(b) For the purpose of reports required under §60.7(c), periods of excess emissions for nitrogen oxides shall be reported for any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with §60.332 by the performance test required in §60.8; and

(c) The Permittee shall submit in writing the sulfur content and of the No. 2 fuel oil combusted in the combustion turbines by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

All instances of deviations from the requirements of this permit must be clearly identified.

(C) WNCRAQA CODE 4.0530 - PREVENTION OF SIGNIFICANT DETERIORATION (NITROGEN OXIDES REQUIREMENTS)

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0530(g), 17.0317(a)(1), & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 4.0530(g) for major sources and major modifications, both sources, in combination with Unit 1 Boiler and Unit 2 Boiler, shall emit no more than 13,725 tons of nitrogen oxides per consecutive 12-month period.

(2) **Testing** [WNCRAQA Code 4.2612]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2612 and General Condition JJ. If the results of this test are above the limit given in Section 2.2(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
To assure compliance with the limitation given in Section 2.2(C)(1) above, the Permittee shall determine nitrogen oxide emissions in pounds per hour using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the nitrogen oxides emission limitation shall be determined monthly by summing hourly CEMS values over a consecutive 12-month period. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any consecutive 12-month sum exceeds the limitation given in Section 2.2(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(4) **Reporting** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(D) WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0521(d) & 17.0508(b)]
Visible emissions from these sources shall not exceed 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

(2) **Testing** [WNCRAQA Code 4.2610]
If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in

Section 2.2(D)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521.

(3) **Monitoring** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.2(D)(1) above, the Permittee shall perform a Method 9 test for 1 hour in accordance with WNCRAQA Code 4.2610 prior to exceeding 1,000 hours of operation while combusting No. 2 fuel oil in each of these sources. This monitoring protocol shall be repeated prior to each 1,000-hour period of operation while combusting No. 2 fuel oil. No monitoring is required while burning natural gas in these sources.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
Records (written or electronic format) of the above monitoring shall be maintained onsite and made available to an authorized WNCRAQA representative upon request. The records shall include the following:

(a) The date and time of each recorded action;

(b) The results of each observation and/or test noting the source with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and

(c) The results of any corrective actions performed.

(5) **Reporting** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The permittee shall submit the results of the Method 9 test within 30 days of completion of the test. All instances of deviations from the requirements of this permit must be clearly identified.

2.3 - Emission Source ID Limestone Crusher, Limestone Conveyor 1, Limestone Conveyor 2, Limestone Conveyor 3, Limestone Bin 1, & Limestone Bin 2

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Particulate matter	0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot)	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart OOO)
	Local-enforceable only: As defined in specific conditions	WNCRAQA Code 4.0540
Visible emissions	7 percent opacity	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart OOO)

(A) WNCRAQA CODE 4.0524 - NEW SOURCE PERFORMANCE STANDARDS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0524(a) & 17.0508(b)]
As specified in §60.672(a) of 40 CFR Part 60, emissions of particulate matter from these sources shall not exceed 0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot) and visible emissions from these sources shall not exceed 7 percent opacity when averaged over a six-minute period.

(2) **Testing** [WNCRAQA Code 4.0524(a)]
Within 60 days after achieving the maximum production rate at which these sources will be operated, but not later than 180 days after initial startup of these sources, an initial performance

test shall be conducted. Testing shall be performed in accordance with §60.675. If the results of this testing are above the limits given in Section 2.4(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0524.

(3) Recordkeeping/Reporting [WNCRAQA Code 4.0524(a) & 17.0508(f)]
The Permittee shall comply with the recordkeeping and reporting requirements of this standard as specified in §60.676(f), (h), and (i). All instances of deviations from the requirements of this permit must be clearly identified.

(B) WNCRAQA CODE 4.0540 - PARTICULATES FROM FUGITIVE NON-PROCESS DUST EMISSION SOURCES

(1) Emission Limitation/Standard [WNCRAQA Code 4.0540 & 17.0508(b)]
The Permittee shall not cause, allow, or permit particulate matter to become airborne in the ambient air as a result of storage, transportation, or handling of materials associated with non-process crushed stone operations without taking reasonable precautions for the prevention of such particulate matter from becoming airborne.

(2) Monitoring/Recordkeeping/Reporting [WNCRAQA Code 17.0508(f)]
No monitoring/recordkeeping/reporting is required for particulate matter emissions from fugitive sources.

2.4 - Emission Source ID Sorbent 1, Sorbent 2

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Particulate matter	$E = 4.10(P)^{0.67}$, where E = allowable emission rate in pounds per hour and P = process weight rate in tons per hour	WNCRAQA Code 4.0515
Visible emissions	20 percent opacity	WNCRAQA Code 4.0521

(A) WNCRAQA CODE 4.0515 - PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

(1) Emission Limitation/Standard [WNCRAQA Code 4.0515 & 17.0508(b)]
Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour.

(2) Testing [WNCRAQA Code 4.2609]
No testing is required at this time; however, the WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with the WNCRAQA Code 4.2609 and General Condition JJ. If the results of this test are above the limit given in Section 2.3(A)(1) above, the Permittee shall be deemed in noncompliance with the WNCRAQA Code 4.0515.

(3) Monitoring/Recordkeeping [WNCRAQA Code 17.0508(f)]

(a) Particulate matter emissions from these sources shall be controlled by the dust collector. To ensure that optimum control efficiency is maintained, the Permittee shall perform inspections and maintenance as recommended by the manufacturer implemented in the plant's Work Management System. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement must include the following:

(i) An annual internal inspection of the dust collector's structural integrity; and

(ii) A monthly visual inspection of the system ductwork, and material collection unit for leaks.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0515 if the ductwork and dust collector are not inspected and maintained.

(b) The results of inspection and maintenance shall be maintained in a log book (written or electronic form) on site and made available to an authorized representative upon request. The log book shall record the following:

(i) The date and time of actions recorded;

(ii) The results of each inspection;

(iii) The results of any maintenance performed on the dust collector; and:

(iv) Any variance from manufacturer's recommendations, and corrections made.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0515 if these records are not maintained.

(4) <u>Reporting</u> [WNCRAQA Code 17.0508(f)

(a) The Permittee shall submit the results of any maintenance performed on the dust collector within 30 days of a written request by the WNCRAQA.

(b) The Permittee shall submit a summary report of monitoring and recordkeeping activities by January 30 and July 30 of each calendar year for the preceding six-month period. All instances of deviations from the requirements of this permit must be clearly identified.

(B) WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS

(1) <u>Emission Limitation/Standard</u> [WNCRAQA Code 4.0521 & 17.0508(b)]
Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

(2) <u>Testing</u> [WNCRAQA Code 4.2610]
No testing is required at this time; however, the WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with the WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in Section 2.4(A)(1) above, the Permittee shall be deemed in noncompliance with the WNCRAQA Code 4.0521.

(3) <u>Monitoring</u> [WNCRAQA Code 17.0508(f)]

To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following start-up of the sources. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) immediately shutdown the source and repair the malfunction, (b) be deemed to be in noncompliance with WNCRAQA Code 4.0521 or (c) demonstrate that the percent opacity from the emission points of the emission sources in accordance with WNCRAQA Code 4.2601 for 30 minutes is below the limit given in Section 2.1 2.4(B)(1) above. If the demonstration in (c) above cannot be made, the Permittee shall be deemed to be in noncompliance with WNCRAQA Code 4.0521.

(4) Recordkeeping [WNCRAQA Code 17.0508(f)]
The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

(a) The date and time of each recorded action;

(b) The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and

(c) The results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521 if these records are not maintained.

(5) Reporting [WNCRAQA Code 17.0508(f)
The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.5 - Emission Source ID Emergency Generator 1, Fire Pump Engine 1

(A) WNCRAQA CODE 4.1111 - MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT - 40 CFR PART 63 SUBPART ZZZZ)

(1) Compliance Date [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6595(a)(1)]
These sources must be in compliance with all applicable requirements of 40 CFR Part Subpart ZZZZ - Reciprocating Internal Combustion Engines (RICE) by May 3, 2013.

(2) Emission and Operating Limitations [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6602]
The Permittee must perform the following work practice requirements:

(a) Change oil and filter every 500 hours of operation or annually, whichever comes first;

(b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and

(c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the above schedule, or if performing the work practice on the above schedule would otherwise pose an unacceptable risk under Federal,

State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement. Sources can petition the EPA Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

(3) General Requirements [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6625(e)]

(a) The Permittee must be in compliance with the applicable emission limitations and operating limitations at all times. (Note: These sources do not have emissions limitation.)

(b) At all times, the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved.

(4) Monitoring, Installation, Collection, Operation, and Maintenance Requirements [WNCRAQA Code 4.1111 & 17.0508(f) & 40 CFR 63. 6625]

(a) Per §63.6625(e), the Permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions, or the Permittee shall develop its own maintenance plan, which must provide, to the extent practicable, for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(b) Per §63.6625(f), the Permittee must install a non-resettable hour meter if one is not already installed.

(c) Per §63.6625(h), the Permittee shall minimize the engine's time spent at idle during startup time and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time, the non-startup emission limitations (if any) apply.

(5) Demonstrating Compliance with Emission and Operating Limitations [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6640]

(a) Per §63.6640(a), the Permittee must demonstrate continuous compliance with each emission limitation and operating limitation according to Condition 2.4(4)(a), above.

(b) Per §63.6640(b) the Permittee must report each instance in which each applicable emission limitation or operating limitation was not met. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in § 63.6650.

(c) Per §63.6640(e) the Permittee must also report each instance in which the applicable requirements in the General Provisions, as indicated in §63.6665 and shown in Table 8 to this subpart, were not met.

(d) Per §63.6640(f) the Permittee must operate the engine according to the conditions described below:

(i) Any operation other than emergency operation, maintenance and testing, and operation in nonemergency situations for 50 hours per year, as permitted in this section, is prohibited;

(ii) There is no time limit on the use of emergency stationary RICE in emergency situations.

(iii) The emergency stationary RICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the EPA Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iv) The emergency stationary RICE may be operated up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for nonemergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.

(6) <u>Recordkeeping</u> [WNCRAQA Code 4.1111 & 17.0508(f) & 40 CFR 63. 6655 & .6660]

(a) The Permittee shall keep records that show that management practices that are required are being met. These records must include, at a minimum:

(i) Oil and filter change dates and corresponding hour on the hour meter;

(ii) Inspection and replacement dates for air cleaners, hoses, and belts; and

(iii) Records of other emission-related repairs and maintenance performed.

(b) Each record must be kept readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

SECTION 3 - CLEAN AIR INTERSTATE RULE (CAIR) PERMIT REQUIREMENTS

(A) WNCRAQA CODE 4. 2403: NITROGEN OXIDE EMISSIONS

(1) <u>Emission Limitation/Standard</u> [WNCRAQA Code 4.2403]
The total nitrogen oxide (NO_X) emissions from Duke Energy Progress, Inc.'s Asheville Steam Electric Plant shall not exceed, except as provided in WNCRAQA Code 4.2408:

(a) 1,789 tons annually for 2015 and later.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR NO_X sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2403(e)]
The owner or operator of any unit or source covered under WNCRAQA Code 4.2403 shall be subject to the provisions of 40 CFR 96.106(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2403 & 4.2407(a)(1)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.106(b) and (e), and 40 CFR 96 Subpart HH for each CAIR NO_X unit. The emissions of nitrogen oxides of a CAIR NO_X source shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HH shall be used to determine compliance by each CAIR NO_X source with its emissions limitation according to 40 CFR 96.106(c) including 96.106(c)(5) and (6). The provisions of 40 CFR 96.106(d) shall be used for excess emissions.

(B) WNCRAQA CODE 4.2405 - NITROGEN OXIDE EMISSIONS DURING OZONE SEASON

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.2405(a)(1) & (b)]
Ozone season NO_X emissions from Duke Energy Progress, Inc.'s Asheville Steam Electric Plant shall not exceed, except as provided in WNCRAQA Code 4.2408:

(a) 765 tons during the ozone season for 2015 and later.

The ozone season shall be defined as the period of time extending from May 1 to September 30 of each calendar year.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR NO_X Ozone Season sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2405(g)]
The owner or operator of any unit or source covered under WNCRAQA Code 4.2405 shall be subject to the provisions of 40 CFR 96.306(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2405 & 4.2407(a)(3)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.306(b) and (e), and 40 CFR 96 Subpart HHHH for each CAIR Ozone Season NO_X unit. The nitrogen oxide ozone season emissions of a CAIR NO_X Ozone Season source shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NO_X Ozone Season source with its emissions limitation according to 40 CFR 96.306(c) including 96.306(c)(5) and (6). The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

(C) WNCRAQA CODE 4.2404 - SULFUR DIOXIDE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.2404(b)]
The annual allocation of sulfur dioxide allowances shall be determined by EPA. The allocations for CAIR SO_2 units are listed in the table below (these allocations are from 40 CFR 73.10):
(a) Unit 1 - 6,633 for 2010 and later; and

(b) Unit 2 - 5,271 for 2010 and later.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR SO_2 sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2404(f)]
The owner or operator of any unit or source covered under 15A NCAC 2D .2404 shall be subject to the provisions of 40 CFR 96.206(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2404 & 4.2407(a)(2)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.206(b) and (e), and 40 CFR 96 Subpart HHH for each CAIR SO_2 unit. The emissions of sulfur dioxides of a source described in Section 3(C)(1) above shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHH shall be used to determine compliance by each CAIR SO_2 source with its emissions limitation according to 40 CFR 96.206(c) including 96.206(c)(5) and (6). The provisions of 40 CFR 96.206(d) shall be used for excess emissions.

(D) **CAIR PERMIT APPLICATION**
The permit application submitted for this facility, as approved by WNCRAQA, is part of this permit. The owner and operator of these CAIR NO_X and SO_2 sources must comply with the standard requirements and special provisions set forth in the following attached application:

CAIR Permit Application dated June 23, 2014.

SECTION 4 - ACID RAIN PROGRAM REQUIREMENTS

ORIS code: **2706**
Effective: **January 1, 2015 through December 31, 2019**

(A) **Statement of Basis**
Statutory and Regulatory Authorities: In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina, as amended, and Titles IV and V of the Clean Air Act, WNCRAQA issues this permit pursuant to WNCRAQA Code 17.0400 and 17.0500, and other applicable laws.

(B) **SO_2 Allowance Allocations and NO_X Reduction Requirements for Each Affected Unit**
The following table provides a summary of the Title IV applicable requirements for the emission source(s) at this facility:

Emission Source ID	Reduction Requirement	2015	2016	2017	2018	2019
Unit 1 Boiler	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	6,633*	6,633*	6,633*	6,633*	6,633*
Unit 1 Boiler	NO_X Limit	WNCRAQA approves a standard NO_X compliance plan for this unit. The compliance plan is effective for calendar year 2015 through calendar year 2019. Under the compliance plan, this unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR part 75, shall not exceed the applicable				

Emission Source ID	Reduction Requirement	2015	2016	2017	2018	2019
		emission limitation, under 40 CFR 76.7(a)(2) of 0.46 lb/MMBtu for dry bottom wall-fired boilers. In addition to the described NO_X compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.				
Unit 2 Boiler	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	5,271*	5,271*	5,271*	5,271*	5,271*
Unit 2 Boiler	NO_X Limit	WNCRAQA approves a standard NO_X compliance plan for this unit. The compliance plan is effective for calendar year 2015 through calendar year 2019. Under the compliance plan, this unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.7(a)(2) of 0.46 lb/MMBtu for dry bottom wall-fired boilers. In addition to the described NO_X compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.				
Unit 3 IC Turbine and Unit 4 IC Turbine	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	NA**	NA**	NA**	NA**	NA**
	NO_X Limit	NA***				

*The number of allowances allocated to Phase II-affected units by U.S. EPA may change under a future revision to 40 CFR Part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

**SO_2 allowances are not allocated by U.S. EPA for new units under 40 CFR Part 72.

***Does not apply for gas or oil-fired units.

(C) **Comments, Notes, and Justifications**

None.

(D) **Permit Applications (Attached)**

The permit applications submitted for this facility, as approved by WNCRAQA, are part of this permit. The owners and operators of these Phase II acid rain sources must comply with the standard requirements and special provisions set forth in the following attached applications:

Acid Rain Permit Application dated June 23, 2014; and
Acid Rain NO_X Compliance Plan dated March 23, 2015.

SECTION 5 - GENERAL CONDITIONS AND LIMITATIONS

This section describes terms and conditions applicable to this Title V facility.

(A) General Provisions [NCGS 143-215 and WNCRAQA Code 17.0508(i)(16)]

(1) Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in WNCRAQA Code Chapters 4 and 17.

(2) The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by WNCRAQA.

(3) This permit is not a waiver of or approval of any other permits that may be required for other aspects of the facility which are not addressed in this permit.

(4) This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of local laws or rules, unless specifically authorized by an order from WNCRAQA.

(5) Except as identified as local-only requirements in this permit, all terms and conditions contained herein shall be enforceable by WNCRAQA, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.

(6) Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by WNCRAQA, unless the source is exempted by rule. WNCRAQA may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

(B) Permit Availability [WNCRAQA Code 17.0507(k) and 17.0508 (i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of WNCRAQA upon request.

(C) Severability Clause [WNCRAQA Code 17.0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

(D) Submissions [WNCRAQA Code 17.0507(e) and 17.0508(i)(16)]
Except as otherwise specified herein, one copy of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to WNCRAQA.

(E) Duty to Comply [WNCRAQA Code 17.0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as local-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

(F) Circumvention - LOCAL ENFORCEABLE ONLY
The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

(G) Permit Modifications

(1) Administrative Permit Amendments [WNCRAQA Code 17.0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with WNCRAQA Code 17.0514.

(2) Transfer of Ownership or Operation [WNCRAQA Code 17.0524 and 17.0505]
The Permittee shall submit an application for an ownership change in accordance with WNCRAQA Code 17.0524 and 17.0505.

(3) Minor Permit Modifications [WNCRAQA Code 17.0515]
The Permittee shall submit an application for a minor permit modification in accordance with WNCRAQA Code 17.0515.

(4) Significant Permit Modifications [WNCRAQA Code 17.0516]
The Permittee shall submit an application for a significant permit modification in accordance with WNCRAQA Code 17.0516.

(5) Reopening for Cause [WNCRAQA Code 17.0517]
The Permittee shall submit an application for reopening for cause in accordance with WNCRAQA Code 17.0517.

(H) Changes Not Requiring Permit Modifications

(1) Reporting Requirements
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the WNCRAQA:

(a) Changes in the information submitted in the application;

(b) Changes that modify equipment or processes; or

(c) Changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the WNCRAQA to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

(2) Section 502(b)(10) Changes [WNCRAQA Code 17.0523(a)]

(a) "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

(b) The Permittee may make Section 502(b)(10) changes without having the permit revised if:

(i) The changes are not a modification under Title I of the Federal Clean Air Act;

(ii) The changes do not cause the allowable emissions under the permit to be exceeded;

(iii) The Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and

(iv) The Permittee shall attach the notice to the relevant permit.

(c) The written notification shall include:

(i) A description of the change;

(ii) The date on which the change will occur;

(iii) Any change in emissions; and

(iv) Any permit term or condition that is no longer applicable as a result of the change.

(d) Section 502(b)(10) changes shall be made in the permit the next time the permit is revised or renewed, whichever comes first.

(3) Off Permit Changes [WNCRAQA Code 17.0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:

(a) The change affects only insignificant activities and the activities remain insignificant after the change; or

(b) The change is not covered under any applicable requirement.

(4) Emissions Trading [WNCRAQA Code 17.0523(c)]
To the extent that emissions trading is allowed under WNCRAQA Code Chapter 4, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to WNCRAQA Code 17.0523(c).

(I.A) **Reporting Requirements for Excess Emissions and Permit Deviations** [WNCRAQA Code 4.0535(f) and 17.0508(f)(2)]

"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Chapter 4; or by a permit condition; or that exceeds an emission limit established in a permit issued under WNCRAQA Code 17.0700. *(Note: Definitions of excess emissions under 4.1110 and 4.1111 shall apply where defined by rule.)*

"Deviations" - for the purpose of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions, as well as excess emissions as defined above lasting less than four hours.

Excess Emissions

(1) If a source is required to report excess emissions under NSPS (WNCRAQA Code 4.0524), NESHAPs (WNCRAQA Code 4.1110 or 4.1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.

(2) If the source is not subject to NSPS (WNCRAQA Code 4.0524), NESHAPs (WNCRAQA Code 4.1110 or 4.1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with WNCRAQA Code 4.0535 as follows:

(a) Pursuant to WNCRAQA Code 4.0535, if excess emissions last for more than four hours

resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:

(i) Notify the Director of any such occurrence by 9:00 a.m. Eastern Time of the Agency's next business day of becoming aware of the occurrence and provide:

- Name and location of the facility;
- Nature and cause of the malfunction or breakdown;
- Time when the malfunction or breakdown is first observed;
- Expected duration; and
- Estimated rate of emissions;

(ii) Notify the Director immediately when corrective measures have been accomplished; and

(iii) Submit to the Director within 15 days a written report as described in WNCRAQA Code 4.0535(f)(3);

Permit Deviations

(3) Pursuant to WNCRAQA Code 17.0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:

(a) Notify the Director of all other deviations from permit requirements not covered under WNCRAQA Code 4.0535 quarterly. A written report to the Director shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

(I.B) **Other Requirements under WNCRAQA Code 4.0535**
The Permittee shall comply with all other applicable requirements contained in WNCRAQA Code 4.0535, including 4.0535(c), as follows:

(1) Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in WNCRAQA Code 4.0535(c)(1) through (7).

(2) WNCRAQA Code 4.0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

(J) **Emergency Provisions** [40 CFR 70.6(g)]
The Permittee shall be subject to the following provisions with respect to emergencies:

(1) An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

(2) An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in (3) below are met.

(3) The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:

(a) An emergency occurred and the Permittee can identify the cause(s) of the emergency;

(b) The permitted facility was at the time being properly operated;

(c) During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and

(d) The Permittee submitted notice of the emergency to WNCRAQA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.

(4) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(5) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

(K) **Permit Renewal** [WNCRAQA Code 17.0508(e) and 17.0513(b)]
This permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with WNCRAQA Code 17.0512(b)(1), this WNCRAQA Code 17.0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under WNCRAQA Code 17.0400 terminates the facility's right to operate unless a complete WNCRAQA Code 17.0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 2Q .0400 requirements. In either of these events, all terms and conditions of this permit shall remain in effect until the renewal permit has been issued or denied.

(L) **Need to Halt or Reduce Activity Not a Defense** [WNCRAQA Code 17.0508(i)(4)]
It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(M) **Duty to Provide Information (submittal of information)** [WNCRAQA Code 17.0508(i)(9)]

(1) The Permittee shall furnish to WNCRAQA, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.

(2) The Permittee shall furnish WNCRAQA copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

(N) **Duty to Supplement** [WNCRAQA Code 17.0507(f)]
The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to WNCRAQA. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

(O) **Retention of Records** [WNCRAQA Code 17.0508(f) and 17.0508(l)]
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to an authorized WNCRAQA representative for inspection upon request.

(P) **Compliance Certification** [WNCRAQA Code 17.0508(n)]
The Permittee shall submit to WNCRAQA and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street, Atlanta, GA 30303) postmarked on or before **January 30** a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

(1) The identification of each term or condition of the permit that is the basis of the certification;

(2) The compliance status (with the terms and conditions of the permit for the period covered by the certification);

(3) Whether compliance was continuous or intermittent; and

(4) The method(s) used for determining the compliance status of the source during the certification period.

(Q) **Certification by Responsible Official** [WNCRAQA Code 17.0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(R) **Permit Shield for Applicable Requirements** [WNCRAQA Code 17.0512]

(1) Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.

(2) A permit shield shall not alter or affect:

(a) The power of the Director under WNCRAQA Code 1.0102(a)(12), or EPA under Section 303 of the Federal Clean Air Act;

(b) The liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;

(c) The applicable requirements under Title IV; or

(d) The ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.

(3) A permit shield does not apply to any change made at a facility that does not require a permit or

permit revision made under WNCRAQA Code 17.0523.

(4) A permit shield does not extend to minor permit modifications made under WNCRAQA Code 17.0515.

(S) **Termination, Modification, and Revocation of the Permit** [WNCRAQA Code 17.0519]
The Director may terminate, modify, or revoke and reissue this permit if:

(1) The information contained in the application or presented in support thereof is determined to be incorrect;

(2) The conditions under which the permit or permit renewal was granted have changed;

(3) Violations of conditions contained in the permit have occurred;

(4) The EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or

(5) The Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

(T) **Insignificant Activities** [WNCRAQA Code 17.0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized WNCRAQA representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

(U) **Property Rights** [WNCRAQA Code 17.0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

(V) **Inspection and Entry** [WNCRAQA Code 17.0508(l) and 1.0104(d)]

(1) Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow WNCRAQA, or an authorized representative, to perform the following:

(a) Enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

(c) Inspect, at reasonable times and using reasonable safety practices, any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) Sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.

(2) No person shall refuse entry or access to any authorized representative of WNCRAQA who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any

person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his or her official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

(W) **Annual Fee Payment** [WNCRAQA Code 17.0508(i)(10)]

(1) The Permittee shall pay all fees in accordance with WNCRAQA Code 17.0200.

(2) Payment of fees may be by check or money order made payable to the Western North Carolina Regional Air Quality Agency. Annual permit fee payments shall refer to the permit number.

(3) If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under WNCRAQA Code 17.0519.

(X) **Annual Emission Inventory Requirements** [WNCRAQA Code 17.0207]
The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in WNCRAQA Code 17.0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such forms as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

(Y) **Confidential Information** [WNCRAQA Code 17.0107 and 17.0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to WNCRAQA Code 17.0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with WNCRAQA Code 17.0107.

(Z) **Construction and Operation Permits** [WNCRAQA Code 17.0100 and 17.0300]
A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source that is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of WNCRAQA Code 17.0100 and 17.0300.

(AA) **Standard Application Form and Required Information** [WNCRAQA Code 17.0505 and 17.0507]
The Permittee shall submit applications and required information in accordance with the provisions of WNCRAQA Code 17.0505 and 17.0507.

(BB) **Financial Responsibility and Compliance History** [WNCRAQA Code 17.0507(d)(4)]
WNCRAQA may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

(CC) **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [WNCRAQA Code 17.0501(e)]

(1) If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82, Subpart A, Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82, Subpart F.

(2) The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device, except as provided in 40 CFR Part 82, Subpart F.

(3) The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

(DD) **Prevention of Accidental Releases - Section 112(r)** [WNCRAQA Code 17.0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

(EE) **Prevention of Accidental Releases "General Duty" Clause - Section 112(r)(1)** - FEDERALLY ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

(FF) **Title IV Allowances** [WNCRAQA Code 17.0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

(GG) **Air Pollution Emergency Episode** [WNCRAQA Code 4.0300]
Should the Director declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in WNCRAQA Code 4.0300.

(HH) **Registration of Air Pollution Sources** [WNCRAQA Code 4.0202]
The Director may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with WNCRAQA Code 4.0202(b).

(II) **Ambient Air Quality Standards** [WNCRAQA Code 4.0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in WNCRAQA Code 4.0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

(JJ) **General Emissions Testing and Reporting Requirements** [WNCRAQA Code 17.0508(i)(16)]
Emission compliance testing shall be by the procedures of WNCRAQA Code 4 .2600, except as may be otherwise required in WNCRAQA Code 4.0524, 4.0912, 4.1110, 4.1111, or 4.1415. If emissions testing is required by this permit or WNCRAQA or if the Permittee submits emissions testing to WNCRAQA to demonstrate compliance, the Permittee shall perform such testing in accordance with WNCRAQA Code 4.2600 and follow the procedures outlined below:

(1) The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.

(2) Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.

(3) The owner or operator of the source shall arrange for controlling and measuring the production

rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.

(4) One copy of the final air emission test report shall be submitted to the Director not later than 30 days after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.

(a) The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:

(i) Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.

(ii) Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.

(iii) Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.

(b) The Director may authorize the WNCRAQA to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the WNCRAQA using the appropriate testing procedures described in WNCRAQA Code 4.2600 has precedence over all other tests.

(KK) <u>Reopening for Cause</u> [WNCRAQA Code 17.0517]

(1) A permit shall be reopened and revised under the following circumstances:

(a) Additional applicable requirements become applicable to a facility with remaining permit term of three or more years;

(b) Additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;

(c) The Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or

(d) The Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(2) Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to WNCRAQA Code 17.0513(c).

(3) Except for the local enforceable only portion of the permit, the procedures set out in WNCRAQA Code 17.0507, 17.0521, or 17.0522 shall be followed to reissue the permit. If the local

enforceable only portion of the permit is reopened, the procedures in WNCRAQA Code 17.0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.

(4) The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.

(5) Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

(LL) **Reporting Requirements for Non-Operating Equipment** [WNCRAQA Code 17.0508(i)(16)]
The Permittee shall maintain a record of operation for permitted equipment, noting whenever the equipment is taken from and placed into operation. During operation, the monitoring, recordkeeping, and reporting requirements, as prescribed by the permit, shall be implemented within the monitoring period.

(MM) **Fugitive Dust Control Requirement** [WNCRAQA Code 4.0540] - LOCAL ENFORCEABLE ONLY
As required by WNCRAQA Code 4.0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in WNCRAQA Code 4.0540(g). "Fugitive dust emissions" means particulate matter that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas, stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

(NN) **Specific Permit Modifications** [WNCRAQA Code 17.0501 and 17.0523]

(1) For modifications made pursuant to WNCRAQA Code 17.0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.

(2) For modifications made pursuant to WNCRAQA Code 17.0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of WNCRAQA Code 17.0500 (except for WNCRAQA Code 17.0504) is obtained.

(3) For modifications made pursuant to 502(b)(10), in accordance with WNCRAQA Code 17.0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA Region 4 - Air Planning Branch, 61 Forsyth St., Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:

(a) A description of the change at the facility;

(b) The date on which the change will occur;

(c) Any change in emissions; and

(d) Any permit term or condition that is no longer applicable as a result of the change.

In addition to this notification requirement, with the next significant modification or Air Quality

Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements

(OO) **Third Party Participation and EPA Review** [WNCRAQA Code 17.0521, 17.0522 and 17.0525(7)]
For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 2Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Insignificant Activities Under WNCRAQA Code 17.0503(8)

Emission Source Description	Control Device Description
Two (2) 1,804,000-gallon capacity aboveground No. 2 fuel oil storage tanks	NA
Two (2) 15,000-gallon capacity urea storage tanks	NA
One (1) 90,000-gallon capacity urea solution feed tank	NA
One (1) 4.00 million BTU per hour natural gas-fired gas heater	NA
One (1) 200-gallon capacity No. 2 fuel oil storage tank	NA
One (1) 280-gallon capacity No. 2 fuel oil storage tank	NA
One (1) 25,000-gallon capacity No. 2 fuel oil storage tank	NA
Two (2) 6,200-gallon capacity lube oil tanks	NA
Two (2) 250-gallon capacity false start drain tanks	NA
One (1) 1,000-gallon capacity kerosene storage tank	NA
One (1) 1,000-gallon capacity gasoline storage tank	NA
One (1) 8,000-gallon capacity batch lube oil tank	NA
One (1) 9,200-gallon capacity batch lube oil tank	NA
One (1) 4,455-gallon capacity turbine lube oil tank with demister	NA
One (1) 3,000-gallon capacity turbine lube oil tank with demister	NA
One (1) 8,000-gallon capacity transformer oil tank	NA
One (1) 500-gallon capacity mobile diesel fuel storage tank	NA
Coal handling / coal pile / ash handling and ash pond	NA
Gypsum handling system	NA
Limestone pile	NA

ATTACHMENT

List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
BTU	British Thermal Unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CI	Compression Ignition
COMS	Continuous Opacity Monitoring System
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NCGS	North Carolina General Statutes
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NOx	Nitrogen Oxides
NSPS	New Source Performance Standard
PM	Particulate Matter
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
$PM_{2.5}$	Particulate Matter with Nominal Aerodynamic Diameter of 2.5 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RICE	Reciprocating Internal Combustion Engine
SI	Spark Ignition
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TPY	Tons Per Year
VOC	Volatile Organic Compound
WNCRAQA	Western North Carolina Regional Air Quality Agency

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 11/30/2012

Acid Rain Permit Application

For more information, see instructions and 40 CFR 72.30 and 72.31.

This submission is: ~ new ~ revised X for Acid Rain permit renewal

STEP 1

Identify the facility name, State, and plant (ORIS) code.

Facility (Source) Name	State	Plant Code
Asheville Steam Electric Plant	NC	2706

STEP 2

Enter the unit ID# for every affected unit at the affected source in column "a."

a	b
Unit ID#	Unit Will Hold Allowances In Accordance with 40 CFR 72.9(c)(1)
1	X
2	X
3	X
4	X

Permit Requirements

STEP 3

Read the standard requirements.

(1) The designated representative of each affected source and each affected unit at the source shall:

(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;

(2) The owners and operators of each affected source and each affected unit at the source shall:

(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and

(ii) Have an Acid Rain Permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.

(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the source shall:

(i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and

(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.

(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:

(i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or

(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

Sulfur Dioxide Requirements, Cont'd.

STEP 3, Cont'd.

(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

(1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an affected source that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;

Recordkeeping and Reporting Requirements, Cont'd.

STEP 3, Cont'd.

(ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.
(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:
(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating

Asheville Steam Electric Plant
Facility (Source) Name (from STEP 1)

Effect on Other Authorities, Cont'd.

STEP 3, Cont'd.

to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a source can hold; *provided*, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

STEP 4
Read the certification statement, sign, and date.

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Harry Sideris (Designated Representative)	
Signature Harry Sideris	Date 6/23/14

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 11/30/2012

Acid Rain NO_X Compliance Plan

For more information, see instructions and refer to 40 CFR 76.9

This submission is: ☐ New ☒ Revised

Page ☐ of ☐

STEP 1
Indicate plant name, State, and Plant code from the current Certificate of Representation covering the facility.

Plant Name	State	Plant Code
Duke Energy Progress, Inc. Asheville Steam Electric Plant	N.C.	2706

STEP 2

Identify each affected Group 1 and Group 2 boiler using the unit IDs from the current Certificate of Representation covering the facility. Also indicate the boiler type: "CB" for cell burner, "CY" for cyclone, "DBW" for dry bottom wall-fired, "T" for tangentially fired, "V" for vertically fired, and "WB" for wet bottom, and select the compliance option for each unit by making an 'X' in the appropriate row and column.

	ID# 1 Type DBW	ID# 2 Type DBW	ID# Type	ID# Type	ID# Type	ID# Type
(a) Standard annual average emission limitation of 0.60 lb/mmBtu (for Phase I dry bottom wall-fired boilers)						
(b) Standard annual average emission limitation of 0.45 lb/mmBtu (for Phase I tangentially fired boilers)						
(c) Standard annual average emission limitation of 0.46 lb/mmBtu (for Phase II dry bottom wall-fired boilers)	XX	XX				
(d) Standard annual average emission limitation of 0.40 lb/mmBtu (for Phase II tangentially fired boilers)						
(e) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers)						
(f) Standard annual average emission limitation of 0.86 lb/mmBtu (for cyclone boilers)						
(g) Standard annual average emission limitation of 0.50 lb/mmBtu (for vertically fired boilers)						
(h) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers)						

STEP 2, cont'd

Asheville Steam Electric Plant

Plant Name (From Step 1)

	1 ID#	2 ID#	ID#	ID#	ID#	ID#
	DBW Type	DBW Type	Type	Type	Type	Type
(i) NO_x Averaging Plan (include NO_x Averaging form)						
(j) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(A) (check the standard emission limitation box above for most stringent limitation applicable to any unit utilizing stack)						
(k) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(B) with NO_x Averaging (check the NO_x Averaging Plan box and include NO_x Averaging Form))						
(l) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17(a)(2)(i)(C), (a)(2)(iii)(B), or (b)(2)						

STEP 3: Identify the first calendar year in which this plan will apply.

January 1, 2015

STEP 4: Read the special provisions and certification, enter the name of the designated representative, sign and date.

Special Provisions

General This source is subject to the standard requirements in 40 CFR 72 9 These requirements are listed in this source's Acid Rain Permit.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Larry Hatcher	
Signature Larry E. Hatcher	Date 3-23-15

Acid Rain Program
Instructions for Acid Rain NO_X Compliance Plan and Averaging Plan (40 CFR 76.9 and 76.11)

The Acid Rain Program NO_X regulations are found at 40 CFR part 76 and apply to each existing coal-fired utility unit that is subject to sulfur dioxide (SO_2) emission reduction requirements under Sections 404, 405, or 409 of the Clean Air Act. Under 40 CFR 76.9, the owner of operator of each affected unit subject to 40 CFR part 76 must include a NO_X compliance plan in the Acid Rain permit application that covers that unit.

Acid Rain NO_X Compliance Plan Instructions

STEP 1

Enter the plant name and 4 or 5 digit plant code used in the Certificate of Representation covering the facility.

STEP 2

For each boiler subject to an Acid Rain NO limit, enter the boiler (unit) ID #, (consistent with the unit ID # listed for the unit on the Certificate of Representation covering the facility) and check either (1) the appropriate box denoting the standard limit that the unit is subject to in row (a) through (h) or (2) the NO_X averaging plan box in row (i) (if a box in row "i" is checked, a NO_X Averaging Plan form must also be submitted with the NO_X compliance plan). If applicable, one of the boxes in rows (j) through (l) may also be checked. See the "Common Stacks" paragraph immediately below.

Common Stacks

A unit that utilizes a common stack and is separately monitored for NO_X (i.e, has its own NO_X monitor and diluent monitor) is treated as the same as a unit that emits only through its own separate stack.

A unit that utilizes a common stack and is not monitored separately must select one of the applicable common stack options. If the unit shares a common stack with other affected units and no non-affected units and if each of the units has a NO_X emission limitation, three options are available: comply with the most stringent NO_X emission limitation applicable to any unit utilizing the common stack (option (l)); include the units in a NO_X averaging plan (option (k)); or use an approved method for apportioning the combined NO_X emission rate in the common stack (option (j)). If the unit shares a common stack with at least one other unit that does not have a NO_X emission limitation or with at least one non-affected unit, you must use an approved method for apportioning the combined NO_X emission rate (option (l)), unless, of course, the unit is separately monitored.

If an apportionment option is chosen, check, in addition to option (l), the box at Step 2 that indicates the applicable emission limitation and submit to U.S. EPA the documentation supporting apportionment with the monitoring plan submission.

STEP 3

Identify the first calendar year in which the Acid Rain NO_X compliance plan will apply. Beginning with the calendar year denoted at Step 3, this Acid Rain NO_X compliance plan will apply each calendar year that follows until (and if) a superseding Acid Rain NO_X compliance plan is submitted.

Acid Rain NO_X Averaging Plan Instructions

Under 40 CFR 76.11 any affected units under control of the same owner or operator and with the same designated representative may average their NO_X emission rate, rather than each unit complying on an individual-unit basis with the applicable emission limitation in 40 CFR 76.5, 76.6, or 76.7. Units with no common owner or operator may not average their emissions. You may submit an averaging plan (or a revision to an approved averaging plan) with the appropriate title V permitting authority(s) at any time up to and including January 1 of the calendar year for which the averaging plan will become effective. If the plan is restricted to units located within a single permitting authority's jurisdiction, you may submit the plan at any time up to and including July 1 of the calendar year for which the plan will become effective.

STEP 1

Each unit in the averaging plan must be a Group 1 or Group 2 boiler subject to an emission limitation under 40 CFR 76.5, 76.6, or 76.7. Enter each unit's applicable emission limitation from 40 CFR 76.5, 76.6, or 76.7 in column (a).

For units utilizing a common stack that are averaging pursuant to 40 CFR 75.17(a)(2)(i)(B), the same alternative contemporaneous emission limitation must be entered in column (b) for each unit utilizing the common stack. Different annual heat input limits may be entered for these units in column (c). Units not utilizing the common stack may also be included in the averaging plan with the common stack units.

The annual heat input limit entered at column (c) will be a minimum limit if the value in column (b) is less than the value in column (a) for that unit. It will be a maximum limit if the value in column (b) is greater than the value in column (a). The values entered for each unit at columns (b) and (c) must satisfy the formula at Step 2.

STEP 2

The entries in Step 2 must demonstrate that the Btu-weighted annual emission rate averaged over the units in the plan is less than or equal to the Btu-weighted annual average emission rate for the same units if they are each operated, during the same period of time, in compliance with the applicable emission limitations in 40 CFR 76.5, 76.6, or 76.7. Use the equation that appears in Step 2 to demonstrate that the alternative contemporaneous annual emission limitations and annual heat input values assigned to the units in Step 1 satisfy this criterion.

STEP 3

Identify the first calendar year in which the Acid Rain NO_x averaging plan will apply. Beginning with the calendar year denoted at Step 3, this Acid Rain NO_x averaging plan will apply each calendar year that follows until (and if) a superseding Acid Rain NO_x compliance plan or averaging plan is submitted.

General Instructions

(1) Submit one complete set of all forms with original signatures to the appropriate title V permitting authority (for NO_x Averaging Plans, a copy of the plan must be submitted to each title V permitting authority with jurisdiction over any of the units in the plan) and one copy to U.S. EPA:

For Regular or Certified Mail:

U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Mail Code 6204M
Attn: Acid Rain NO_x
Washington, DC 20460

For Overnight Mail:

U.S. Environmental Protection Agency
1201 Constitution Ave., NW
7th Floor, Room # 7421L
Attn: Acid Rain NO_x
Washington, DC 20004
(202) 343-9077

(2) For assistance, contact Robert Miller at (202) 343-9077 or Miller.RobertL@epa.gov or call the Acid Rain Hotline at (202) 343-9620.

Paperwork Burden Estimate

The burden on the public for collecting and reporting of information under this request is fixed per response indicated. Send comments regarding this collection of information, including suggestions for reducing the burden, to: Chief, Information Policy Branch (PM-223), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, D.C. 20460; and to: Paperwork Reduction Project (OMB#2060-0258), Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503. *Do not send your forms to these addresses; see the General Instructions on Page 2 for form submission information.*

FORM	HOURS
NO_x Compliance Plan	10
NO_x Averaging Plan	50

Clean Air Interstate Rule (CAIR) Permit Application
for Administrative Amendment to Title V Permit to Add CAIR Budget Trading Part

For more information, see instructions and refer to 40 CFR 96.121, 96.122, 96.221, 96.222, 96.321 and 96.322; and 15A NCAC 2D .2406.

This submission is: ☒ Renewal Page 1

STEP 1

Identify the source by filling in the requested data.

Legal Corporate / Owner Name Duke Energy Progress, Inc.		
Site Address 200 CP&L Drive	City Asheville	Zip Code 28704
Plant Name Asheville Steam Electric Plant	County Buncombe	ORIS/Plant Code 2706
Title V Permit No. 11-828-10D	TV Rev. D	NC Facility ID 11-828
Permit Technical Contact: Cynthia Winston Address: 410 S. Wilmington Street, Raleigh, NC 27601 Phone No. 919-546-5538 Fax No. 919-546-6302 email: Cynthia.Winston@duke-energy.com	Facility Inspection Contact: Laurie Moorhead Address: 200 CP&L Drive, Asheville, NC 28704 Phone No. 828-687-5240 Fax No. email: Laurie.Moorhead@duke-energy.com	

STEP 2

In column "a" enter the unit ID# for every CAIR unit at the CAIR source.

In columns "b", "c", and "d" indicate to which CAIR program(s) each unit is subject by placing an "X" in the column(s).

For new units, enter the requested information in columns "e" and "f".

a	b	c	d	e	f
Unit ID#	Unit will hold nitrogen oxides (NOx) allowances in accordance with 40 CFR 96.106(c)(1)	Unit will hold sulfur dioxide (SO_2) allowances in accordance with 40 CFR 96.206(c)(1)	Unit will hold NOx Ozone Season allowances in accordance with 40 CFR 96.306(c)(1)	New Units Expected Commence Commercial Operation Date	New Units Expected Monitor Certification Deadline
1	X	X	X	NA	NA
2	X	X	X	NA	NA
3	X	X	X	NA	NA
4	X	X	X	NA	NA

Plant Name (from STEP 1) Asheville Steam Electric Plant

STEP 3

Read the standard requirements.

CAIR NOx ANNUAL TRADING PROGRAM

CAIR Part Requirements.

(1) The CAIR designated representative of each CAIR NOx source required to have a Title V operating permit or air construction permit, and each CAIR NOx unit required to have a Title V operating permit or air construction permit at the source shall:
(i) Submit to the DAQ a complete and certified CAIR part form under 40 CFR part 96.122 and 15A NCAC 2D .2406; and

(ii) [Reserved];
(2) The owners and operators of each CAIR NOx source required to have a Title V operating permit or air construction permit, and each CAIR NOx unit required to have a Title V operating permit or air construction permit at the source shall have a CAIR Part included in the Title V operating permit or air construction permit issued by the Director and operate the source and the unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

(1) The owners and operators, and the CAIR designated representative, of each CAIR NOx source and each CAIR NOx unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR part 96 subpart HH and 15A NCAC 2D .2407
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 96 subpart HH shall be used to determine compliance by each CAIR NOx source with the following CAIR NOx Emissions Requirements.

NOx Emission Requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NOx source and each CAIR NOx unit at the source shall hold, in the source's compliance account, CAIR NOx allowances available for compliance deductions for the control period under 40 CFR 96.154(a) in an amount not less than the tons of total NOx emissions for the control period from all CAIR NOx units at the source, as determined in accordance with 40 CFR part 96 subpart HH.
(2) A CAIR NOx unit shall be subject to the requirements under paragraph (1) of the NOx Requirements starting on the later of January 1, 2009 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.170(b)(1) or (2) and for each control period thereafter.
(3) A CAIR NOx allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NOx Requirements, for a control period in a calendar year before the year for which the CAIR NOx allowance was allocated
(4) CAIR NOx allowances shall be held in, deducted from, or transferred into or among CAIR NOx Allowance Tracking System accounts in accordance with 40 CFR part 96 subparts FF and GG.
(5) A CAIR NOx allowance is a limited authorization to emit one ton of NOx in accordance with the CAIR NOx Annual Trading Program. No provision of the CAIR NOx Annual Trading Program, the CAIR Part, or an exemption under 40 CFR 96.105 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization.
(6) A CAIR NOx allowance does not constitute a property right.
(7) Upon recordation by the Administrator under 40 CFR part 96 subpart EE, FF, or GG, every allocation, transfer, or deduction of a CAIR NOx allowance to or from a CAIR NOx unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NOx unit.

Excess Emissions Requirements.

If a CAIR NOx source emits NOx during any control period in excess of the CAIR NOx emissions limitation, then:
(1) The owners and operators of the source and each CAIR NOx unit at the source shall surrender the CAIR NOx allowances required for deduction under 40 CFR 96.154(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and
(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 96 subpart AA the Clean Air Act, and applicable State law.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR NOx source and each CAIR NOx unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Director or the Administrator.
(i) The certificate of representation under 40 CFR 96.113 for the CAIR designated representative for the source and each CAIR NOx unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative
(ii) All emissions monitoring information, in accordance with 40 CFR part 96 subpart HH of this part, provided that to the extent that 40 CFR part 96 subpart HH provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NOx Annual Trading Program
(iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NOx Annual Trading Program or to demonstrate compliance with the requirements of the CAIR NOx Annual Trading Program.

(2) The CAIR designated representative of a CAIR NOx source and each CAIR NOx unit at the source shall submit the reports required under the CAIR NOx Annual Trading Program, including those under 40 CFR part 96 subpart HH

Plant Name (from STEP 1) Asheville Steam Electric Plant

STEP 3, Continued

Liability.

(1) Each CAIR NOx source and each CAIR NOx unit shall meet the requirements of the CAIR NOx Annual Trading Program.
(2) Any provision of the CAIR NOx Annual Trading Program that applies to a CAIR NOx source or the CAIR designated representative of a CAIR NOx source shall also apply to the owners and operators of such source and of the CAIR NOx units at the source.

(3) Any provision of the CAIR NOx Annual Trading Program that applies to a CAIR NOx unit or the CAIR designated representative of a CAIR NOx unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR NOx Annual Trading Program, a CAIR Part, or an exemption under 40 CFR 96.105 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NOx source or CAIR NOx unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

CAIR SO_2 TRADING PROGRAM

CAIR Part Requirements.

(1) The CAIR designated representative of each CAIR SO_2 source required to have a Title V operating permit or air construction permit, and each CAIR SO_2 unit required to have a Title V operating permit or air construction permit at the source shall:
(i) Submit to the DAQ a complete and certified CAIR part form under 40 CFR part 96.222 and 15A NCAC 2D .2406; and

(ii) [Reserved].
(2) The owners and operators of each CAIR SO_2 source required to have a Title V operating permit or air construction permit, and each CAIR SO_2 unit required to have a Title V operating permit or air construction permit at the source shall have a CAIR Part included in the Title V operating permit or air construction permit issued by the Director under 40 CFR part 96 subpart CCC for the source and operate the source and each CAIR unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

(1) The owners and operators, and the CAIR designated representative, of each CAIR SO_2 source and each SO_2 CAIR unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR part 96 subpart HHH and 15A NCAC 2D .2407

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 96 subpart HHH shall be used to determine compliance by each CAIR SO_2 source with the following CAIR SO_2 Emission Requirements.

SO_2 Emission Requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO_2 source and each CAIR SO_2 unit at the source shall hold, in the source's compliance account, a tonnage equivalent in CAIR SO_2 allowances available for compliance deductions for the control period, as determined in accordance with 40 CFR 96.254(a) and (b), not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO_2 units at the source, as determined in accordance with 40 CFR part 96 subpart HHH
(2) A CAIR SO_2 unit shall be subject to the requirements under paragraph (1) of the Sulfur Dioxide Emission Requirements starting on the later of January 1, 2010 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.270(b)(1) or (2) and for each control period thereafter.
(3) A CAIR SO_2 allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the SO_2 Emission Requirements, for a control period in a calendar year before the year for which the CAIR SO_2 allowance was allocated.
(4) CAIR SO_2 allowances shall be held in, deducted from, or transferred into or among CAIR SO_2 Allowance Tracking System accounts in accordance with 40 CFR part 96 subparts FFF and GGG.
(5) A CAIR SO_2 allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO_2 Trading Program. No provision of the CAIR SO_2 Trading Program, the CAIR Part, or an exemption under 40 CFR 96.205 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization.
(6) A CAIR SO_2 allowance does not constitute a property right.
(7) Upon recordation by the Administrator under 40 CFR part 96 subpart FFF or GGG, every allocation, transfer, or deduction of a CAIR SO_2 allowance to or from a CAIR SO_2 unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR SO_2 unit.

Excess Emissions Requirements.

If a CAIR SO_2 source emits SO_2 during any control period in excess of the CAIR SO_2 emissions limitation, then:
(1) The owners and operators of the source and each CAIR SO_2 unit at the source shall surrender the CAIR SO_2 allowances required for deduction under 40 CFR 96.254(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and
(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 96 subpart AAA, the Clean Air Act, and applicable State law.

Plant Name (from STEP 1) Asheville Steam Electric Plant

STEP 3, Continued

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR SO_2 source and each CAIR SO_2 unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Director or the Administrator.
(i) The certificate of representation under 40 CFR 96.213 for the CAIR designated representative for the source and each CAIR SO_2 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.213 changing the CAIR designated representative.
(ii) All emissions monitoring information, in accordance with 40 CFR part 96 subpart HHH of this part, provided that to the extent that 40 CFR part 96 subpart HHH provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR SO_2 Trading Program.
(iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR SO_2 Trading Program or to demonstrate compliance with the requirements of the CAIR SO_2 Trading Program.
(2) The CAIR designated representative of a CAIR SO_2 source and each CAIR SO_2 unit at the source shall submit the reports required under the CAIR SO_2 Trading Program, including those under 40 CFR part 96 subpart HHH.

Liability.

(1) Each CAIR SO_2 source and each CAIR SO_2 unit shall meet the requirements of the CAIR SO_2 Trading Program.
(2) Any provision of the CAIR SO_2 Trading Program that applies to a CAIR SO_2 source or the CAIR designated representative of a CAIR SO_2 source shall also apply to the owners and operators of such source and of the CAIR SO_2 units at the source.
(3) Any provision of the CAIR SO_2 Trading Program that applies to a CAIR SO_2 unit or the CAIR designated representative of a CAIR SO_2 unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR SO_2 Trading Program, a CAIR Part, or an exemption under 40 CFR 96.205 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR SO_2 source or CAIR SO_2 unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

CAIR NOx OZONE SEASON TRADING PROGRAM

CAIR Part Requirements.

(1) The CAIR designated representative of each CAIR NOx Ozone Season source required to have a Title V operating permit or air construction permit, and each CAIR NOx Ozone Season unit required to have a Title V operating permit or air construction permit at the source shall:

(i) Submit to the DAQ a complete and certified CAIR part form under 40 CFR part 96.322 and 15A NCAC 2D .2406; and
(ii) [Reserved];

(2) The owners and operators of each CAIR NOx Ozone Season source required to have a Title V operating permit or air construction permit, and each CAIR NOx Ozone Season unit required to have a Title V operating permit or air construction permit at the source shall have a CAIR Part included in the Title V operating permit or air construction permit issued by the Director under 40 CFR part 96 subpart CCCC for the source and operate the source and the unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

(1) The owners and operators, and the CAIR designated representative, of each CAIR NOx Ozone Season source and each CAIR NOx Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR part 96 subpart HHHH and 15A NCAC 2D .2407

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 96 subpart HHHH shall be used to determine compliance by each CAIR NOx Ozone Season source with the following CAIR NOx Ozone Season Emissions Requirements

NOx Ozone Season Emission Requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NOx Ozone Season source and each CAIR NOx Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NOx Ozone Season allowances available for compliance deductions for the control period under 40 CFR 96.354(a) in an amount not less than the tons of total NOx emissions for the control period from all CAIR NOx Ozone Season units at the source, as determined in accordance with 40 CFR part 96 subpart HHHH.
(2) A CAIR NOx Ozone Season unit shall be subject to the requirements under paragraph (1) of the NOx Ozone Season Emission Requirements starting on the later of May 1, 2009 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.370(b)(1),(2), or (3) and for each control period thereafter.
(3) A CAIR NOx Ozone Season allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NOx Ozone Season Emission Requirements, for a control period in a calendar year before the year for which the CAIR NOx Ozone Season allowance was allocated.
(4) CAIR NOx Ozone Season allowances shall be held in, deducted from, or transferred into or among CAIR NOx Ozone Season Allowance Tracking System accounts in accordance with 40 CFR part 96 subparts FFFF and GGGG.
(5) A CAIR NOx Ozone Season allowance is a limited authorization to emit one ton of NOx in accordance with the CAIR NOx Ozone Season Trading Program. No provision of the CAIR NOx Ozone Season Trading Program, the CAIR Part, or an exemption under 40 CFR 96.305 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization
(6) A CAIR NOx Ozone Season allowance does not constitute a property right.
(7) Upon recordation by the Administrator under 40 CFR part 96 subpart EEEE, FFFF or GGGG, every allocation, transfer, or deduction of a CAIR NOx Ozone Season allowance to or from a CAIR NOx Ozone Season unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NOx Ozone Season unit.

Plant Name (from STEP 1) Asheville Steam Electric Plant

STEP 3, Continued

Excess Emissions Requirements.

If a CAIR NOx Ozone Season source emits NOx during any control period in excess of the CAIR NOx Ozone Season emissions limitation, then
(1) The owners and operators of the source and each CAIR NOx Ozone Season unit at the source shall surrender the CAIR NOx Ozone Season allowances required for deduction under 40 CFR 96.354(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and
(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 96 subpart AAAA, the Clean Air Act, and applicable State law.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR NOx Ozone Season source and each CAIR NOx Ozone Season unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Director or the Administrator.
(i) The certificate of representation under 40 CFR 96.313 for the CAIR designated representative for the source and each CAIR NOx Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative.
(ii) All emissions monitoring information, in accordance with 40 CFR part 96 subpart HHHH of this part, provided that to the extent that 40 CFR part 96 subpart HHHH provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NOx Ozone Season Trading Program.
(iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NOx Ozone Season Trading Program or to demonstrate compliance with the requirements of the CAIR NOx Ozone Season Trading Program.
(2) The CAIR designated representative of a CAIR NOx Ozone Season source and each CAIR NOx Ozone Season unit at the source shall submit the reports required under the CAIR NOx Ozone Season Trading Program, including those under 40 CFR part 96 subpart HHHH.

Liability.

(1) Each CAIR NOx Ozone Season source and each CAIR NOx Ozone Season unit shall meet the requirements of the CAIR NOx Ozone Season Trading Program.
(2) Any provision of the CAIR NOx Ozone Season Trading Program that applies to a CAIR NOx Ozone Season source or the CAIR designated representative of a CAIR NOx Ozone Season source shall also apply to the owners and operators of such source and of the CAIR NOx Ozone Season units at the source.
(3) Any provision of the CAIR NOx Ozone Season Trading Program that applies to a CAIR NOx Ozone Season unit or the CAIR designated representative of a CAIR NOx Ozone Season unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR NOx Ozone Season Trading Program, a CAIR Part, or an exemption under 40 CFR 96.305 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NOx Ozone Season source or CAIR NOx Ozone Season unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

STEP 4

Read the certification statement; provide name, title, owner company name, phone, email address; sign, and date.

Certification (for designated representative or alternate designated representative only)

I am authorized to make this submission on behalf of the owners and operators of the CAIR source or CAIR units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Harry Sideris	Title Vice President, Carolinas West
Owner Name Duke Energy Progress, Inc.	Company Duke Energy Progress, Inc.
Phone (704) 382-4303	Email Address Harry.Sideris@duke-energy.com
Signature [signature]	Date 6/23/14

Ceron, Heather

From: Johnson, Terry
Sent: Monday, August 29, 2016 2:13 PM
To: Hofmeister, Art
Cc: Ceron, Heather; Powell, Keri
Subject: FW: Duke Energy Progress Asheville Steam Plant
Attachments: Permit No. 11-628-16 FINAL.pdf

FYI – Here is a copy of the final, issued permit for Duke Asheville Plant. It was signed on July 11, 2016 with an effective date of August 1, 2016.

Terry Johnson
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404-562-8950
Johnson.Terry@epa.gov

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Monday, August 29, 2016 1:52 PM
To: Johnson, Terry
Subject: Duke Energy Progress Asheville Steam Plant

Hi Terry,

The permit is attached.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

WESTERN NORTH CAROLINA
REGIONAL AIR QUALITY AGENCY

AIR QUALITY PERMIT

Until such time as this permit expires or is modified or revoked, the below named Permittee is authorized to operate, as outlined in Part I, "Air Quality Title V Operation Permit", and to construct and operate, as outlined in Part II, "Air Quality Construction and Operation Permit", the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of the Western North Carolina Regional Air Quality Agency Air Quality Code (WNCRAQA Code) and is subject to all requirements therein.

Pursuant to WNCRAQA Code Chapter 17, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the Western North Carolina Regional Air Quality Agency and received an Air Quality Permit, except as provided in this permit.

Permittee:	**Duke Energy Progress, Inc.** **Asheville Steam Electric Plant**
Facility ID:	**11-628**
Facility Site Location:	**200 CP&L Drive**
City, State, Zip:	**Arden, North Carolina 28704**
Facility Mailing Address:	**200 CP&L Drive**
City, State, Zip:	**Arden, North Carolina 28704**
Permit Number:	**11-628-16**
Replaces Permit Number:	**11-628-10D**
Issue Date:	**July 11, 2016**
Effective Date:	**August 1, 2016**
Renewal Application Due Date:	**October 31, 2020**
Expiration Date:	**July 31, 2021**

David A. Brigman, Director

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ATTACHMENTS

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List of Acronyms
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CAIR Permit Application dated June 23, 2014

PART I - AIR QUALITY TITLE V OPERATION PERMIT

The Western North Carolina Regional Air Quality Agency (WNCRAQA), the United States Environmental Protection Agency (EPA), and citizens as defined under the Federal Clean Air Act have the authority to enforce the terms, conditions, and limitations contained in Part I of this permit unless otherwise specified.

Under WNCRAQA Code Chapter 17, the operation of emission source(s) and associated air pollution control device(s) listed in Part I of this permit is based on plans, specifications, operating parameters, and other information as submitted in the Air Quality Permit Application.

SECTION 1 - PERMITTED EMISSION SOURCE(S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S)

The following table contains a summary of all permitted emission sources and associated air pollution control devices:

Emission Source ID	Emission Source Description	Control Device ID	Control Device Description
Unit 1 Boiler	One (1) 2,155 million BTU per hour (nominally rated) Riley Stoker pulverized coal-fired boiler equipped with low NO_X burners and alkaline-based fuel additive[1]	Unit 1 SCR	One (1) selective catalytic reduction system[2]
		Unit 1 ESP	One (1) electrostatic precipitator
		Unit 1 FGD	One (1) flue gas desulfurization system[3]
Unit 2 Boiler	One (1) 2,102 million BTU per hour (nominally rated) Babcock & Wilcox pulverized coal-fired boiler equipped with low NO_X burners and alkaline-based fuel additive[1]	Unit 2 SCR	One (1) selective catalytic reduction system[2]
		Unit 2 ESP	One (1) electrostatic precipitator
		Unit 2 FGD	One (1) flue gas desulfurization system[3]
Unit 3 IC Turbine	One (1) 1,929 million BTU per hour (nominally rated) General Electric natural gas / No. 2 fuel oil-fired simple cycle internal combustion turbine	NA	NA
Unit 4 IC Turbine	One (1) 1,929 million BTU per hour (nominally rated) General Electric natural gas / No. 2 fuel oil-fired simple cycle internal combustion turbine	NA	NA
Limestone Crusher	One (1) 150-ton per hour crusher	LC-BF-1	One (1) bagfilter

[1] Alkaline-based fuel additive may be used on an as-needed basis not to exceed 4 pounds per ton of coal burned. Fuel additives shall not contain any toxic air pollutants listed in WNCRAQA Code 17.0711. Fuel additive products not equivalent to those specified in the Application Addendum dated November 4, 2010 are not allowed without a permit modification.

[2] For ozone season NO_X control and compliance with the North Carolina Clean Smokestacks Act (SB 1078 – Air Quality / Electric Utilities Bill). To be operated on an as needed basis. A sulfur trioxide (SO_3) mitigation system can be used when needed in conjunction with each SCR.

[3] For compliance with the North Carolina Clean Smokestacks Act (SB 1078 – Air Quality / Electric Utilities Bill). To be operated on an as-needed basis.

Emission Source ID	Emission Source Description	Control Device ID	Control Device Description
Limestone Conveyor 1	One (1) 150-ton per hour belt conveyor measuring 270 feet x 24 inches	NA	NA
Limestone Conveyor 2	One (1) 150-ton per hour belt conveyor measuring 408 feet x 24 inches	CONV-BF-2	One (1) bagfilter
Limestone Conveyor 3	One (1) 150-ton per hour belt conveyor measuring 44 feet x 24 inches	NA	NA
Limestone Bin 1	One (1) 400-ton capacity storage bin	LDB-BF-1	One (1) bagfilter
Limestone Bin 2	One (1) 400-ton capacity storage bin	LDB-BF-2	One (1) bagfilter
Sorbent 1	One (1) 40-50-ton capacity sorbent receiving trailer	SORB-DC-1	One (1) dust collector controlling Sorbent 1 and Sorbent 2
Sorbent 2	One (1) approximately 18-ton capacity sorbent metering trailer		
Emergency Generator 1	One (1) diesel-fired emergency-use generator with a rated output capacity of 380 horsepower	NA	NA
Fire Pump Engine 1	One (1) diesel-fired emergency-use fire pump engine with a rated output capacity of 370 horsepower	NA	NA

SECTION 2 - SPECIFIC CONDITIONS AND LIMITATIONS

The emission sources and associated air pollution control devices listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

2.1 - Emission Source ID Unit 1 Boiler & Unit 2 Boiler

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Sulfur dioxide	26,880 pounds per 24-hour block period for Unit 1 Boiler 26,880 pounds per 24-hour block period for Unit 2 Boiler	WNCRAQA Code 4.0501(c)
	2.3 pounds per million BTU heat input	WNCRAQA Code 4.0516
	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
	Phase II Acid Rain Permit Requirements (see Section 4)	WNCRAQA Code 17.0402

Regulated Pollutant	Limits / Standards	Applicable Regulation
Nitrogen oxides	When burning only oil or natural gas - 0.8 pounds per million BTU heat input; When burning only coal - 1.8 pounds per million BTU heat input; When burning both coal and oil or natural gas in combination - as calculated by the equation E = [(Ec)(Qc) + (Eo)(Qo)] / Qt, where: E = emission limit in pounds per million BTU heat input Ec = 1.8 pounds per million BTU heat input Eo = 0.8 pounds per million BTU heat input Qc = coal heat input in BTU per hour Qo = oil and gas heat input in BTU per hour Qt = Qc + Qo	WNCRAQA Code 4.0519
Nitrogen oxides	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
	Phase II Acid Rain program requirements (see Section 4)	WNCRAQA Code 17.0402
Visible emissions	40 percent opacity	WNCRAQA Code 4.0521
	Local-enforceable only: Unit 1 Boiler - 10 percent annual average opacity; Unit 2 Boiler - 5 percent annual average opacity	WNCRAQA Code 4.0536
Particulate matter	0.12 pounds per million BTU heat input	WNCRAQA Code 4.0536
Mercury	See Section 2.1(J)	WNCRAQA Code 4.2500
Excess emissions	Malfunction abatement plan	WNCRAQA Code 4.0535
Various	As defined in specific condition	WNCRAQA Code 4.0530(u)
Hazardous Air Pollutants	As defined in specific condition	WNCRAQA Code 4.1111 (40 CFR 63, Subpart UUUUU)
Toxic air pollutants	Local-enforceable only: Recycled oil specifications	WNCRAQA Code 17.0700
	Local-enforceable only: Unit 1 Boiler - Waste oils / solvents specifications	
	Local-enforceable only: Boiler tube cleaning solution specifications	

(A) WNCRAQA CODE 4.0501(c) – COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0501(c)]
Emissions of sulfur dioxide from the Unit 1 Boiler shall not exceed 26,880 pounds per 24-hour block period. Emissions of sulfur dioxide from the Unit 2 Boiler shall not exceed 26,880 pounds per 24-hour block period.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0608(e) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(A)(1) above, the Permittee shall

determine sulfur dioxide emissions for each boiler in pounds per 24-hour block period using a CEMS meeting the requirements of 40 CFR Part 75, except that the data reported shall not include data substituted using the missing data procedures in Subpart D of 40 CFR 75, nor shall the data have been bias adjusted according to the procedures of 40 CFR Part 75. Compliance with the sulfur dioxide emission limitation shall be determined by summing the hourly CEMS values for each boiler in pounds of sulfur dioxide over a 24-hour block period beginning at midnight. The minimum number of data points, shall be determined by 40 CFR Part 75. If any 24-hour block total exceeds the mass emissions limits given in Section 2.1(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0501(c).

(3) **Reporting** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values for each boiler in pounds of sulfur dioxide per 24-hour for each 24-hour block period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(4) **Reporting/CEMS Availability** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit sulfur dioxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(B) WNCRAQA CODE 4.0516 - SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0516 & 17.0508(b)]
Emissions of sulfur dioxide from each source shall not exceed 2.3 pounds per million BTU heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

(2) **Testing** [WNCRAQA Code 4.2611]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2611 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(B)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0516.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0608(e) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(B)(1) above, the Permittee shall determine sulfur dioxide emissions in pounds per million BTU using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the sulfur dioxide emission limitation shall be determined by averaging hourly CEMS values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any 24-hour block average exceeds the limitation given in Section 2.1(B)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0516.

(4) **Reporting** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(5) **Reporting/CEMS Availability** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit sulfur dioxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(C) WNCRAQA CODE 4.0519 - CONTROL OF NITROGEN DIOXIDE AND NITROGEN OXIDES EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0519 & 17.0508(b)]
Emissions of nitrogen oxides from each source shall not exceed 0.8 pounds per million BTU heat input when combusting oil or natural gas alone. Emissions of nitrogen oxides from these sources shall not exceed 1.8 pounds per million BTU heat input when combusting coal alone. Emissions of nitrogen oxides from these sources when combusting both coal and oil or natural gas in combination shall not exceed the limit calculated by the following equation:

$$E = [(Ec)(Qc) + (Eo)(Qo)] / Qt,$$

where:
E = emission limit for combination in pounds per million BTU
Ec = 1.8 pounds per million BTU heat input for coal only
Eo = 0.8 pounds per million BTU heat input for oil or natural gas
Qc = actual coal heat input to the combination in BTU per hour
Qo = actual oil and natural gas heat input to the combination in BTU per hour
Qt = Qc + Qo.

(2) **Testing** [WNCRAQA Code 4.2612]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2612 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0519.

(3) **Monitoring** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
To assure compliance with the limitations given in Section 2.1(C)(1) above, the Permittee shall determine nitrogen oxide emissions in pounds per million BTU using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the nitrogen oxides emission limitations shall be determined by averaging hourly CEMS values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75.

For monitoring purposes, the following emission limits apply:

(a) When only coal is burned, the emission limit shall be 1.8 pounds per million BTU heat input;

(b) When only oil or natural gas is burned, the emission limit shall be 0.8 pounds per million BTU heat input; or

(c) When oil or natural gas is burned other than for startup and for periods greater than 24 hours, the emission limit shall be calculated according to the equation in Section 2.1(B)(1) above.

If any 24-hour block average exceeds the limitations given in Section 2.1(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0519.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
Records (written or electronic format) of monthly coal, oil, and natural gas consumption shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(5) **Reporting** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(6) **Reporting/CEMS Availability** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The Permittee shall submit nitrogen oxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(D) WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0521(c) & 17.0508(b)]
Visible emissions from each source shall not exceed 40 percent opacity when averaged over a six-minute period.

(2) **Testing** [WNCRAQA Code 4.2610]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(D)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0521(g), 4.0606, 4.0612, & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(D)(1) above, the Permittee shall either:

- install, maintain, and operate a COMS for measuring the opacity of emissions (and follow the COMS Monitoring Option), or

- install, maintain, and operate a PM CEMS (and follow the PM CEMS Monitoring Option).

The Permittee shall submit a written notification to the WNCRAQA at least 30 days before changing the compliance monitoring option.

(a) <u>COMS Monitoring Option</u>
When using this option, the Permittee shall determine opacity using a COMS meeting the requirements of Appendix P of 40 CFR Part 51 and/or 40 CFR Part 75. Compliance with the opacity limitation shall be calculated using six-minute averages of the COMS values. Excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under WNCRAQA Code 4.0535:

(i) No more than 4 six-minute periods shall exceed the opacity limitation in any one day; and

(ii) The percent of excess emissions (defined as the percentage of monitored operating time in a calendar quarter above the opacity limit) shall not exceed 0.8 percent of the total operating hours. If a source operates less than 500 hours during a calendar quarter, the percent of excess emissions shall be calculated by including hours operated immediately previous to this quarter until 500 operational hours are obtained.

(b) <u>PM CEMS Monitoring Option</u>
When using this option, opacity shall be measured by conducting Method 9 performance tests in accordance with §60.45(b)(7) following the schedule in §60.45(b)(7)(i). Records shall be maintained according to the requirements specified in §60.45(h)(1) for all Method 9 performance tests required. The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521 if the monitoring is not performed, if the monitored values exceed the limitations given above, or if the records are not maintained. For the purposes of this condition, it is not necessary to submit a testing protocol prior to the scheduled test date, as specified in General Condition JJ, if no changes are being made to the most recently approved previous protocol used for Method 9 testing under this condition. If the most recently approved previous protocol is to be used for testing, it shall be submitted with the test report. Excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under WNCRAQA Code 4.0535:

(i) No six-minute period shall exceed 90 percent opacity;

(ii) No more than 1 six-minute period shall exceed the opacity limitation in any one hour; and

(iii) No more than 4 six-minute periods shall exceed the opacity limitation in any one day.

(4) <u>Reporting</u> [WNCRAQA Code 4.0606 & 17.0508(f)]

(a) <u>COMS Monitoring Option</u>
When using this option, the Permittee shall submit excess emissions and monitor downtime reports as required under Appendix P of 40 CFR Part 51 no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. For periods of excess emissions, defined as each six-minute period average greater than 40 percent opacity, the opacity measurements recorded by the COMS shall be reported as described in Paragraphs 4.0 and 5.1 of Appendix P of 40 CFR Part 51 except that a six-minute time period shall be deemed as an appropriate alternative opacity averaging

period as described in Paragraph 4.2 of Appendix P of 40 CFR Part 51. A minimum of 36 data points, equally spaced, is required to determine a valid six-minute value. All instances of deviations from the requirements of this permit must be clearly identified.

(b) PM CEMS Monitoring Option
When using this option, the Permittee shall report the results of all Method 9 performance tests (required during the reporting period per the schedule in §60.45(b)(7)(i)) with the excess emissions and monitoring system performance reports no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(E) WNCRAQA CODE 4.0536 - PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS (ANNUAL AVERAGE OPACITY REQUIREMENTS - LOCAL-ENFORCEABLE ONLY)

(1) Emission Limitation/Standard [WNCRAQA Code 4.0536(b) & 17.0508(b)]
In addition to the limit given in Section 2.1(D)(1) above, visible emissions from the utility boiler units shall not exceed the following annual average opacity limits:

- Unit 1 Boiler - 10 percent; and

- Unit 2 Boiler - 5 percent.

(2) Testing [WNCRAQA Code 4.2609]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2609 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(E)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(3) Monitoring/Recordkeeping [WNCRAQA Code 4.0536(g) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(E)(1) above, the Permittee shall follow either the COMS Monitoring Option or the PM CEMS Monitoring Option (described in Section 2.1(C)(3)).

(a) COMS Monitoring Option
When using this option, the Permittee shall determine opacity using a COMS meeting the performance specifications of Appendix B of 40 CFR Part 60. Each day an annual average opacity value shall be calculated for each unit for the most recent 365-day period ending with the end of the previous day. The average is the sum of the measured non-overlapping six-minute averages of opacity determined only while the unit is in operation divided by the number of such measured non-overlapping six-minute averages. Startup, shutdown, and non-operating time shall not be included in the annual average opacity calculation, but malfunction time shall be included.

(b) PM CEM Monitoring Option
When using this option, the Permittee shall calculate each day an annual average opacity value for the most recent 365-day period ending with the end of the previous day. The average is the sum of the measured non-overlapping one-hour averages of opacity determined only while the unit is in operation divided by the number of such measured non-overlapping one-hour averages. Start-up, shut-down, and non-operating time shall not be included in the annual average opacity calculation, but malfunction time shall be included. The hourly opacity values shall be determined using the PM CEMS hourly average output values as

follows:

$$\text{Opacity, average for each hour} = \frac{(\text{Actual PM CEMS Output, average for each hour})(\text{Z, Opacity})}{(\text{Y, mg/m}^3)}$$

where: Y = The PM CEMS output value (mg/m³) established during the initial PM CEMS PS-11 certification procedure that corresponds to 0.03 lb PM/MMBtu

Z = 5% opacity

(c) For periods of less than 365 days of operation using either the COM Monitoring Option or the PM CEMS Monitoring Option exclusively, the AAO shall be calculated as follows:

$$\text{AAO} = \frac{\sum_{i=1}^{Z}(\text{6 minute COMS block i}) + \left(\sum_{j=1}^{Y}(\text{1 hour PM CEMS block j})(\text{10 six-minute blocks / 1 hour block})\right)}{Z + 10Y}$$

where: Z = Number of six-minute COM blocks of data within the 365-day look-back period

Y = Number of one-hour PM CEMS blocks of data within the 365-day look-back period

Note: 6 minute COMS block i and 1 hour PM CEMS block j refer to the opacity measurements determined from the COMS and PM CEMS, respectively.

(4) **Reporting** [WNCRAQA Code 4.0536(b) & 17.0508(f)]

(a) **COM Monitoring Option**
When using this option, the Permittee shall submit a report by the 30th day following the end of each month showing, for each day of the previous month, the calculated annual average opacity of each unit and the annual average opacity limit.

(b) **PM CEM Monitoring Option**
When using this option, the Permittee shall submit a report showing the calculated annual average opacity of each unit and the annual average opacity limit for each day during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

Quarterly excess emissions reports shall be used as an indication of good operation and maintenance of the electrostatic precipitators. These sources shall be deemed to be properly operated and maintained if the calculated one-hour average PM concentrations (mg/m³) exceed the concentration (mg/m³) corresponding to 0.03 pounds per million Btu heat input less than 3.0 percent of the total operating time, adjusted for monitor downtime, for any given calendar quarter. In addition, these sources shall be deemed to be properly operated and maintained if monitor downtime does not exceed 25 percent (10 percent beginning on January 1, 2012) for any given calendar quarter. If monitor downtime is greater than 2 percent for any given calendar quarter, the Permittee shall provide a full explanation in the

quarterly excess emissions report, including actions taken to reduce monitor downtime to below 2 percent.

(F) **WNCRAQA CODE 4.0536 - PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS (PARTICULATE MATTER REQUIREMENTS)**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0536(b) & 17.0508(b)]
Emissions of particulate matter from each utility boiler unit shall not exceed 0.12 pounds per million BTU of heat input.

(2) **Testing** [WNCRAQA Code 4.2609 & 4.0536(e)]
The Permittee shall produce each year for each unit at least one stack test for particulate matter in accordance with Method 5B of Appendix A of 40 CFR Part 60 and General Condition JJ. In the event that a boiler exceeds 80 percent of its particulate emission limit during the stack test, the Permittee shall schedule and conduct another stack test within 6 months. Upon demonstration that the source is operating under 80 percent of its particulate limit, as shown by three consecutive semiannual stack tests, the source may resume annual stack tests. If the results of any test are above the limit given in Section 2.1(F)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0614 & 17.0508(f)]
In addition to the stack test required in Section 2.1(F)(2) above, to provide a reasonable assurance of compliance with the limitation given in Section 2.1(F)(1) above, the Permittee shall follow either the COMS Monitoring Option or the PM CEMS Monitoring Option (described in Section 2.1(D)(3)).

(a) **COM Monitoring Option**
When using this option, the Permittee shall determine opacity using a COMS meeting the requirements of Appendix P of 40 CFR Part 51 and/or 40 CFR Part 75. Any opacity value in excess of the following indicator ranges shall be deemed an excursion as defined in 40 CFR Part 64:

- Unit 1 Boiler - 14 percent; and

- Unit 2 Boiler - 9 percent

The appropriate averaging period for which an excursion shall be determined is each 3-hour block average of six-minute opacity averages beginning at midnight (total of eight 3-hour block periods each day). Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for data averages and calculations. The Permittee shall use all the data collected during all other periods in assessing the operation of the ESP.

For any excursion, the Permittee shall initiate an inspection of the control equipment and/or COMS, as appropriate, and make any necessary repairs. In addition to implementing procedures outlined in the malfunction abatement plan required under WNCRAQA Code 4.0535, the following corrective actions shall be taken:

(i) Control operator shall notify the shift supervisor or responsible official (plant manager or representative) in accordance with plant procedures;

(ii) System dispatcher shall be alerted if load reductions are anticipated;

(iii) The following operating practices and procedures shall be initiated as necessary:

- Identify cause of excursion;

- Isolate ESP field or increase power input to other fields if necessary;
- Reduce load, as necessary, to help minimize emissions;
- Proceed to shutdown or confirm malfunction conditions exist if emissions can not be controlled appropriately;
- Initiate work order for ESP inspection and repair as needed;

(iv) Nature and cause of excursion shall be documented in operations log;

(v) Provide notification to WNCRAQA as necessary.

If 5 percent or greater of COMS data (excluding startup, shutdown, and malfunction periods) recorded in a calendar quarter exceed the opacity values listed above, a stack test shall be performed in the following calendar quarter to demonstrate compliance with the limitation given in Section 2.1(F)(1) above. In the event that a unit exceeds 80 percent of its particulate emission limit during the stack test, the Permittee shall schedule and conduct another stack test within 6 months. Upon demonstration that the source is operating under 80 percent of its particulate limit, as shown by three consecutive semiannual stack tests, the source may resume annual stack tests. If a source operates less than 2,200 hours during any quarter, the source may evaluate 3-hour opacity values using operating data for the current quarter and the preceding quarters until 2,200 hours of data are obtained. If the result of any stack test is greater than any limit given in Section 2.1(F)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(b) <u>PM CEM Monitoring Option</u>
When using this option, compliance with the particulate limit in Section 2.1(F)(1) shall be determined using the PM CEMS. A measured exceedance of 0.10 pounds per million Btu of heat input (24-hour daily arithmetic average) shall be a violation of the corresponding emission standards in Section 2.1(E)(1).

(i) Each PM CEMS shall meet the requirements of Performance Specification PS-11 of Appendix B of 40 CFR Part 60, and shall be installed, evaluated, operated, and maintained according to the applicable requirements in §60.49Da(v), §§60.45(b)(5), (b)(7), and (g)(4). The Permittee shall have on file with the Director an approved quality assurance program, and shall submit to the director within the time period of his request for his approval a revised quality assurance program to include the provisions of 40 CFR 60, Appendix F, Procedure 2 for the PM CEMS.

(ii) The initial performance evaluation shall be completed no later than 180 days after the date of notification to the WNCRAQA of the first instance the Permittee selects the compliance PM CEMS Monitoring Option.

(iii) The PM emission rate shall be determined based on a 24-hour daily (block) average of the hourly arithmetic average emissions concentrations using the CEMS outlet data each boiler operating day, except for data obtained during startup, shutdown, and malfunction. Averages are only calculated for boiler operating days that have valid data for at least 18 hours of unit operation during which the standard applies. All valid hourly emission rates on operating days not meeting the minimum 18-hour requirement shall be averaged with all of the valid hourly emission rates of the next boiler operating day meeting the minimum 18-hour requirement. The 24-hour block arithmetic average emission concentration shall be calculated using EPA Reference Method 19 of Appendix A of 40 CFR Part 60, section 12.4.1.

(iv) At a minimum, valid PM CEMS hourly averages shall be obtained for 75 percent of all operating hours on a 30-day rolling average basis. Beginning on January 1, 2012, valid PM CEMS hourly averages shall be obtained for a minimum of 90 percent of all operating hours on a 30-day rolling average basis. At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(v) The 1-hour arithmetic averages of PM CEMS data shall be expressed in pounds per million Btu and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of Subpart A of 40 CFR Part 60.

(vi) All valid PM CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph iv above are not met.

(vii) When PM emissions data are not obtained because of PM CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the WNCRAQA or EPA Reference Method 19 of Appendix A of 40 CFR Part 60 to provide, as necessary, valid emissions data for a minimum of 90 percent (only 75 percent is required prior to January 1, 2012) of all operating hours per 30-day rolling average.

(4) **Reporting** [WNCRAQA Code 4.0536(b), 4.0614, & 17.0508(f)]
The results of any stack test required in Section 2.1(F)(2) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. All instances of deviations from the requirements of this permit must be clearly identified.

(a) **COMS Monitoring Option**
When using this option, the results of any stack test required in Section 2.1(F)(3) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. In addition, the Permittee shall submit the following reports as required under §64.9 of 40 CFR Part 64 no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September:

(i) Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; and

(ii) Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable).

(b) **PM CEMS Monitoring Option**
When using this option, the Permittee shall submit excess emissions and monitoring system performance reports for PM no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. The report shall include, at a minimum, the information required in 40 CFR 60.7(c) and shall include all 24-hour daily (block) average excess emissions (pounds per million Btu) using the CEMS outlet data, including periods exempted during startup, shutdown, and malfunction. Within 15 days of a written request, report all PM CEMS hourly averages (in written or electronic form) to show, at a minimum, that valid PM CEMS hourly averages have been obtained for 90 percent

(only 75 percent is required prior to January 1, 2012) of all operating hours on a 30-day rolling average basis.

(G) WNCRAQA CODE 4.0535 - EXCESS EMISSIONS REPORTING AND MALFUNCTIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0535(d) & 17.0508(b)]
All electric utility boiler units shall have a malfunction abatement plan approved by the Director as specified in WNCRAQA Code 4.0535(d).

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0535(d) & 17.0508(f)]
The Permittee shall maintain logs to show that the operation and maintenance sections of the malfunction abatement plan are implemented. These logs (written or electronic format) shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(H) WNCRAQA CODE 4.1111 - MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT - 40 CFR PART 63 SUBPART UUUUU)

The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with WNCRAQA Code 4 .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40CFR Part 63, Subpart UUUUU.

(I) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (RECYCLED OIL SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) **Emission Limitation/Standard** [WNCRAQA Code 17.0317(a)(8), 17.0700, & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, any recycled oil combusted in either Unit 1 Boiler or Unit 2 Boiler to replace No. 2 fuel oil for light-off and flame stabilization shall be shown equivalent to unadulterated fossil fuel prior to combustion by meeting the following criteria:

Constituent / Property	Allowable Level
Arsenic	1 ppm maximum
Cadmium	2 ppm maximum
Chromium	5 ppm maximum
Lead	100 ppm maximum
Total Halogens	1,000 ppm maximum
Flash Point	100°F minimum
Sulfur	1.0% maximum
Ash	1.0% maximum

The Permittee is responsible for ensuring that the recycled oil meets the approved criteria for unadulterated fuel. The Permittee is held responsible for any discrepancies discovered by WNCRAQA as a result of any sampling and analysis of the oil.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 17.0317(b) & 4.0605]
The Permittee shall maintain at the facility for a minimum of three years, and shall make available to an authorized WNCRAQA representative upon request, accurate records of the following:

(a) The actual amount of recycled oil delivered to, and combusted at the facility on an annual basis; and

(b) Each load of recycled fuel oil received shall include the following:

(i) A delivery manifest document clearly showing the shipment content and amount, its

place and date of loading, and place and date of destination;

(ii) A batch specific analytical report that contains an analysis for all constituents/properties listed above. Analytical results of the samples representative of the recycled oil shipment from the vendor shall be no more than one year old when received;

(iii) Batch signature information consisting of the following: a batch number, tank identification with batch volume of recycled oil, date and time the batch completed treatment, and volume(s) delivered; and

(iv) A certification indicating that the recycled fuel oil does not contain detectable PCBs (< 2 ppm).

WNCRAQA reserves the right to require additional monitoring and/or recordkeeping of the recycled oil without notice.

(3) Reporting [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall submit a summary report of the total recycled oil combusted and the results of the analytical testing by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

(J) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (WASTE OILS / SOLVENTS SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) Emission Limitation/Standard [WNCRAQA Code 17.0317(a)(8), 17.0700 & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, waste oils (either petroleum-derived or synthetic, used as a lubricant, hydraulic fluid, metal working fluid, insulating fluid, or coolant) and solvents (including acetone, methanol, methyl ethyl ketone, toluene, varsol, xylene, and waste solvent mixtures containing less than 10 percent (by volume) of any non-halogenated solvent not listed above as referenced by 40 CFR 261.31) shall only be combusted in Unit 1 Boiler as a waste disposal method according to the following conditions and stipulations:

(a) Only those waste oils / solvents generated at the Asheville, Marshall, or Walters sites may be combusted;

(b) No more than 100 gallons of plant employees used oil may be combusted in any calendar year;

(c) Total halogen content shall not exceed 1,000 micrograms per gram (parts per million);

(d) Total lead content shall not exceed 250 micrograms per gram (parts per million);

(e) Total PCB content of any insulating fluid or coolant shall not exceed 49 parts per million;

(f) Waste oils / solvents shall not be combusted during periods of startup, shutdown, or malfunction; and

(g) Total waste oils / solvents feed rate shall not exceed 300 gallons per hour and 10,000 gallons per calendar year.

(2) Monitoring/Recordkeeping [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall conduct monitoring/recordkeeping according to the following:

(a) A daily record of the amount of waste oils / solvents combusted shall be maintained onsite and made available to an authorized WNCRAQA representative upon request; and

(b) Chemical analysis conducted on waste oils / solvents combusted shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(3) Reporting [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall submit a summary report of the amount of waste oils / solvents combusted by January 30 of each calendar year for the preceding twelve-month period between January and December.

(K) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (BOILER TUBE CLEANING SOLUTION SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) Emission Limitation/Standard [WNCRAQA Code 17.0317(a)(8), 17.0700 & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, any boiler tube cleaning solution (such as ammonia / citric acid , ammoniated EDTA, ammonium persulfate, or similar materials upon request and approval of the Director) evaporated in either Unit 1 Boiler or Unit 2 Boiler shall be limited to a 145-gallon per minute maximum injection rate.

(2) Monitoring/Recordkeeping [WNCRAQA Code 17.0317(b) & 17.0508(f)]
A daily record of the amount of boiler tube cleaning solution injected in each boiler shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(3) Reporting [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall notify WNCRAQA at least five days prior to boiler tube cleaning solution evaporation.

(L) WNCRAQA CODE 4.2500 - MERCURY RULES FOR ELECTRIC GENERATORS - LOCAL-ENFORCEABLE ONLY

Note: Sections 4.2509 and .2511 are local-enforceable. All other sections of 4.2500 will not be enforced at this time.

(1) Emission Limitation/Standard [WNCRAQA Code 4.2503(a) & 40 CFR 60.4106(f)]
Emissions of particulate matter from each utility boiler unit shall not exceed the following allocations:

(a) Unit 1 Boiler - 2010 - 2017: 621 ounces
- 2018 and later: 250 ounces; and

(b) Unit 2 Boiler - 2010 - 2017: 575 ounces
- 2018 and later: 232 ounces.

(2) Monitoring/Recordkeeping/Reporting [WNCRAQA Code 4.2503, .2505(a) and .2511]

(a) The emissions of mercury of an Hg budget source shall not exceed the number of allowances that it has in its compliance account according to Rule .2510 of this Section.

(b) The emissions measurements recorded and reported according to 40 CFR 60.4170 through 60.4176 shall be used to determine compliance by each source identified in this rule with its emissions limitation according to 40 CFR 60.4106(c).

(c) The provisions of 40 CFR 60.4106(d) shall be used for excess emissions.

(d) The owner or operator of a Hg budget unit covered under this Section shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 60.4106(b) and (e) and in

40 CFR 60.4170 through 60.4176.

(e) The Permittee shall comply with all applicable requirements of 15A NCAC 2D .2511 "Mercury Emission Limits."

(M) WNCRAQA CODE 4.0530(u) - USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

(1) Use of Projected Actual Emissions [WNCRAQA Code 4.0530(u)]
Pursuant to WNCRAQA Code 4.0530(u), the Permittee relied on the use of projected actual emissions to demonstrate that the replacement of the economizer inlet header, upper and lower tube bundles, and intermediate header at the reheat bypass wall in Unit 1 Boiler would not result in a significant emissions increase. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, recordkeeping, and reporting requirements in Sections 2.1(M)(2) through (4) below.

(2) Testing [WNCRAQA Code 4.2601]
If emissions testing is required, the testing shall be performed in accordance General Condition JJ.

(3) Recordkeeping [WNCRAQA Code 4.0530(u)]
The Permittee shall maintain records of actual emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide, volatile organic compounds, particulate matter (PM), particulate matter having a nominal aerodynamic diameter of 10 micrometers or less (PM_{10}), particulate matter having a nominal aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), sulfuric acid (H_2SO_4), and greenhouse gases (GHG) in tons per year on a calendar year basis for each of the five years following the resumption of regular operations after the replacements described in Section 2.1(M)(1) are made (but not including the initial shakedown period, not to exceed 180 days).

(4) Reporting [WNCRAQA Code 4.0530(u)]
The results of any stack test required in Section 2.1(M)(2) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. All instances of deviations from the requirements of this permit must be clearly identified. The Permittee shall submit a report of the emissions of all pollutants listed in Section 2.1(M)(3) to the Director within 60 days after the end of each calendar year during which the records in Section 2.1(M)(3) must be generated.

2.2 - Emission Source ID Unit 3 IC Turbine & Unit 4 IC Turbine

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Sulfur dioxide	40 tons SO_2 per consecutive 12-month period; 0.05 percent by weight sulfur content of No. 2 fuel oil;	WNCRAQA Code 4.0530
	0.8 percent by weight sulfur content of all fuels	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart GG)
Particulate matter	25 tons PM per consecutive 12-month period; 15 tons PM_{10} per consecutive 12-month period;	WNCRAQA Code 4.0530

Regulated Pollutant	Limits / Standards	Applicable Regulation
Nitrogen oxides	0.0103 percent (103 ppm) by volume at 15 percent oxygen and on a dry basis for natural gas combustion; 0.0101 percent (101 ppm) by volume at 15 percent oxygen and on a dry basis for No. 2 fuel oil combustion	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart GG)
	13,725 tons NO_X per consecutive 12-month period	WNCRAQA Code 4.0530
	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
Visible emissions	20 percent opacity	WNCRAQA Code 4.0521

(A) WNCRAQA CODE 4.0530 - PREVENTION OF SIGNIFICANT DETERIORATION (SULFUR DIOXIDE AND PARTICULATE MATTER REQUIREMENTS)

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0530(g), 17.0317(a)(1), & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 4.0530(g) for major sources and major modifications, the following limitations shall apply:

(a) Both sources shall emit no more than 40 tons of sulfur dioxide (SO_2) per consecutive 12-month period;

(b) The No. 2 fuel oil combusted in both sources shall not exceed 0.05 percent by weight sulfur content; and

(c) Both sources shall emit no more than 25 tons of particulate matter (PM) per consecutive 12-month period.

(d) Both sources shall emit no more than 15 tons of particulate matter having a nominal aerodynamic diameter of 10 micrometers or less (PM_{10}) per consecutive 12-month period.

(2) **Testing** [WNCRAQA Code 4.2600]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2600 and General Condition JJ. If the results of this test are above the limit given in Section 2.2(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(3) **Monitoring** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
To assure compliance with the limitations given in Section 2.2(A)(1) above, the Permittee shall monitor the following:

(a) The hourly fuel-specific heat input measured in accordance with 40 CFR Part 75;

(b) The sulfur content of No. 2 fuel oil combusted in each combustion turbine as specified in §60.334(i) of 40 CFR Part 60, using the test methods and procedures in §60.335(b)(10) and (11);

(c) The calculated monthly SO_2, PM and PM_{10} emissions based on the hourly fuel-specific heat input monitored per Section 2.2(A)(3)(a), the fuel sulfur content monitored per Section 2.2(A)(3)(b), and the PM and PM_{10} emission factors established by the May 6-9, 2008 emissions testing; and

(d) The annual SO_2, PM and PM_{10} emissions for each consecutive 12-month period.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
Records (written or electronic format) of the above monitoring shall be maintained onsite and made available to an authorized WNCRAQA representative upon request. The records shall include the following:

(a) The date and time of the required monitoring; and

(b) The input parameters and results of the required monitoring noting whether or not noncompliant conditions were observed.

(5) **Reporting** [WNCRAQA Code 17.0508(f)]
The Permittee shall submit a summary report of monitoring and recordkeeping activities, including the total SO_2, PM and PM_{10} emissions for each month and each consecutive 12-month period in the reporting period, postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(B) WNCRAQA CODE 4.0524 - NEW SOURCE PERFORMANCE STANDARDS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0524(a) & 17.0508(b)]
As specified in §60.332(a)(1) of 40 CFR Part 60, emissions of nitrogen oxides from each source shall not exceed 0.0103 percent (103 ppm) by volume at 15 percent oxygen and on a dry basis for natural gas combustion and 0.0101 percent (101 ppm) by volume at 15 percent oxygen and on a dry basis for No. 2 fuel oil combustion. As specified in §60.333(b), fuel combusted in each source shall not contain sulfur in excess of 0.8 percent by weight.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0524(a) and 17.0508(f)]
To assure compliance with the limitations given in Section 2.2(B)(1) above, the Permittee shall:

(a) Monitor sulfur content of the No. 2 fuel oil being combusted in each combustion turbine according to §60.334(h) and using the test methods and procedures in §60.334(h)(1) and §60.335 (b)(10-11); and

(b) As required by §60.334(a), using the procedures in §60.335, for each combustion turbine, install and operate a continuous monitoring system to monitor and record fuel consumption and the ratio of water-to-fuel being combusted. The monitoring device shall be calibrated and maintained in accordance with the procedures in §60.334(g).

(3) **Reporting** [WNCRAQA Code 4.0524(a) & 17.0508(f)]
The Permittee shall conduct reporting according to the following:

(a) For the purpose of reports required under §60.7(c), periods of excess emissions for sulfur dioxide shall be reported for any daily period during which the sulfur content of the fuel being combusted exceeds 0.05 percent by weight based on a 12-month rolling average;

(b) For the purpose of reports required under §60.7(c), periods of excess emissions for nitrogen oxides shall be reported for any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with §60.332 by the performance test required in §60.8; and

(c) The Permittee shall submit in writing the sulfur content and of the No. 2 fuel oil combusted in the combustion turbines by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

All instances of deviations from the requirements of this permit must be clearly identified.

(C) WNCRAQA CODE 4.0530 - PREVENTION OF SIGNIFICANT DETERIORATION (NITROGEN OXIDES REQUIREMENTS)

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0530(g), 17.0317(a)(1), & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 4.0530(g) for major sources and major modifications, both sources, in combination with Unit 1 Boiler and Unit 2 Boiler, shall emit no more than 13,725 tons of nitrogen oxides per consecutive 12-month period.

(2) **Testing** [WNCRAQA Code 4.2612]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2612 and General Condition JJ. If the results of this test are above the limit given in Section 2.2(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
To assure compliance with the limitation given in Section 2.2(C)(1) above, the Permittee shall determine nitrogen oxide emissions in pounds per hour using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the nitrogen oxides emission limitation shall be determined monthly by summing hourly CEMS values over a consecutive 12-month period. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any consecutive 12-month sum exceeds the limitation given in Section 2.2(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(4) **Reporting** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(D) WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0521(d) & 17.0508(b)]
Visible emissions from these sources shall not exceed 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

(2) **Testing** [WNCRAQA Code 4.2610]
If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in

Section 2.2(D)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521.

(3) **Monitoring** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.2(D)(1) above, the Permittee shall perform a Method 9 test for 1 hour in accordance with WNCRAQA Code 4.2610 prior to exceeding 1,000 hours of operation while combusting No. 2 fuel oil in each of these sources. This monitoring protocol shall be repeated prior to each 1,000-hour period of operation while combusting No. 2 fuel oil. No monitoring is required while burning natural gas in these sources.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
Records (written or electronic format) of the above monitoring shall be maintained onsite and made available to an authorized WNCRAQA representative upon request. The records shall include the following:

(a) The date and time of each recorded action;

(b) The results of each observation and/or test noting the source with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and

(c) The results of any corrective actions performed.

(5) **Reporting** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The permittee shall submit the results of the Method 9 test within 30 days of completion of the test. All instances of deviations from the requirements of this permit must be clearly identified.

2.3 - Emission Source ID Limestone Crusher, Limestone Conveyor 1, Limestone Conveyor 2, Limestone Conveyor 3, Limestone Bin 1, & Limestone Bin 2

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Particulate matter	0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot)	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart OOO)
	Local-enforceable only: As defined in specific conditions	WNCRAQA Code 4.0540
Visible emissions	7 percent opacity	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart OOO)

(A) WNCRAQA CODE 4.0524 - NEW SOURCE PERFORMANCE STANDARDS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0524(a) & 17.0508(b)]
As specified in §60.672(a) of 40 CFR Part 60, emissions of particulate matter from these sources shall not exceed 0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot) and visible emissions from these sources shall not exceed 7 percent opacity when averaged over a six-minute period.

(2) **Testing** [WNCRAQA Code 4.0524(a)]
Within 60 days after achieving the maximum production rate at which these sources will be operated, but not later than 180 days after initial startup of these sources, an initial performance

test shall be conducted. Testing shall be performed in accordance with §60.675. If the results of this testing are above the limits given in Section 2.4(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0524.

(3) Recordkeeping/Reporting [WNCRAQA Code 4.0524(a) & 17.0508(f)]
The Permittee shall comply with the recordkeeping and reporting requirements of this standard as specified in §60.676(f), (h), and (i). All instances of deviations from the requirements of this permit must be clearly identified.

(B) WNCRAQA CODE 4.0540 - PARTICULATES FROM FUGITIVE NON-PROCESS DUST EMISSION SOURCES

(1) Emission Limitation/Standard [WNCRAQA Code 4.0540 & 17.0508(b)]
The Permittee shall not cause, allow, or permit particulate matter to become airborne in the ambient air as a result of storage, transportation, or handling of materials associated with non-process crushed stone operations without taking reasonable precautions for the prevention of such particulate matter from becoming airborne.

(2) Monitoring/Recordkeeping/Reporting [WNCRAQA Code 17.0508(f)]
No monitoring/recordkeeping/reporting is required for particulate matter emissions from fugitive sources.

2.4 - Emission Source ID Sorbent 1, Sorbent 2

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Particulate matter	$E = 4.10(P)^{0.67}$, where E = allowable emission rate in pounds per hour and P = process weight rate in tons per hour	WNCRAQA Code 4.0515
Visible emissions	20 percent opacity	WNCRAQA Code 4.0521

(A) WNCRAQA CODE 4.0515 - PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

(1) Emission Limitation/Standard [WNCRAQA Code 4.0515 & 17.0508(b)]
Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour.

(2) Testing [WNCRAQA Code 4.2609]
No testing is required at this time; however, the WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with the WNCRAQA Code 4.2609 and General Condition JJ. If the results of this test are above the limit given in Section 2.3(A)(1) above, the Permittee shall be deemed in noncompliance with the WNCRAQA Code 4.0515.

(3) Monitoring/Recordkeeping [WNCRAQA Code 17.0508(f)]

(a) Particulate matter emissions from these sources shall be controlled by the dust collector. To ensure that optimum control efficiency is maintained, the Permittee shall perform inspections and maintenance as recommended by the manufacturer implemented in the plant's Work Management System. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement must include the following:

(i) An annual internal inspection of the dust collector's structural integrity; and

(ii) A monthly visual inspection of the system ductwork, and material collection unit for leaks.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0515 if the ductwork and dust collector are not inspected and maintained.

(b) The results of inspection and maintenance shall be maintained in a log book (written or electronic form) on site and made available to an authorized representative upon request. The log book shall record the following:

(i) The date and time of actions recorded;

(ii) The results of each inspection;

(iii) The results of any maintenance performed on the dust collector; and:

(iv) Any variance from manufacturer's recommendations, and corrections made.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0515 if these records are not maintained.

(4) <u>Reporting</u> [WNCRAQA Code 17.0508(f)

(a) The Permittee shall submit the results of any maintenance performed on the dust collector within 30 days of a written request by the WNCRAQA.

(b) The Permittee shall submit a summary report of monitoring and recordkeeping activities by January 30 and July 30 of each calendar year for the preceding six-month period. All instances of deviations from the requirements of this permit must be clearly identified.

(B) WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS

(1) <u>Emission Limitation/Standard</u> [WNCRAQA Code 4.0521 & 17.0508(b)]
Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

(2) <u>Testing</u> [WNCRAQA Code 4.2610]
No testing is required at this time; however, the WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with the WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in Section 2.4(A)(1) above, the Permittee shall be deemed in noncompliance with the WNCRAQA Code 4.0521.

(3) <u>Monitoring</u> [WNCRAQA Code 17.0508(f)]

To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following start-up of the sources. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) immediately shutdown the source and repair the malfunction, (b) be deemed to be in noncompliance with WNCRAQA Code 4.0521 or (c) demonstrate that the percent opacity from the emission points of the emission sources in accordance with WNCRAQA Code 4.2601 for 30 minutes is below the limit given in Section 2.1 2.4(B)(1) above. If the demonstration in (c) above cannot be made, the Permittee shall be deemed to be in noncompliance with WNCRAQA Code 4.0521.

(4) Recordkeeping [WNCRAQA Code 17.0508(f)]
The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

(a) The date and time of each recorded action;

(b) The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and

(c) The results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521 if these records are not maintained.

(5) Reporting [WNCRAQA Code 17.0508(f)
The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.5 - Emission Source ID Emergency Generator 1, Fire Pump Engine 1

(A) WNCRAQA CODE 4.1111 - MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT - 40 CFR PART 63 SUBPART ZZZZ)

(1) Compliance Date [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6595(a)(1)]
These sources must be in compliance with all applicable requirements of 40 CFR Part Subpart ZZZZ - Reciprocating Internal Combustion Engines (RICE) by May 3, 2013.

(2) Emission and Operating Limitations [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6602]
The Permittee must perform the following work practice requirements:

(a) Change oil and filter every 500 hours of operation or annually, whichever comes first;

(b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and

(c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the above schedule, or if performing the work practice on the above schedule would otherwise pose an unacceptable risk under Federal,

State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement. Sources can petition the EPA Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

(3) General Requirements [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6625(e)]

(a) The Permittee must be in compliance with the applicable emission limitations and operating limitations at all times. (Note: These sources do not have emissions limitation.)

(b) At all times, the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved.

(4) Monitoring, Installation, Collection, Operation, and Maintenance Requirements [WNCRAQA Code 4.1111 & 17.0508(f) & 40 CFR 63. 6625]

(a) Per §63.6625(e), the Permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions, or the Permittee shall develop its own maintenance plan, which must provide, to the extent practicable, for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(b) Per §63.6625(f), the Permittee must install a non-resettable hour meter if one is not already installed.

(c) Per §63.6625(h), the Permittee shall minimize the engine's time spent at idle during startup time and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time, the non-startup emission limitations (if any) apply.

(5) Demonstrating Compliance with Emission and Operating Limitations [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6640]

(a) Per §63.6640(a), the Permittee must demonstrate continuous compliance with each emission limitation and operating limitation according to Condition 2.4(4)(a), above.

(b) Per §63.6640(b) the Permittee must report each instance in which each applicable emission limitation or operating limitation was not met. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in § 63.6650.

(c) Per §63.6640(e) the Permittee must also report each instance in which the applicable requirements in the General Provisions, as indicated in §63.6665 and shown in Table 8 to this subpart, were not met.

(d) Per §63.6640(f) the Permittee must operate the engine according to the conditions described below:

(i) Any operation other than emergency operation, maintenance and testing, and operation in nonemergency situations for 50 hours per year, as permitted in this section, is prohibited;

(ii) There is no time limit on the use of emergency stationary RICE in emergency situations.

(iii) The emergency stationary RICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the EPA Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iv) The emergency stationary RICE may be operated up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for nonemergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.

(6) Recordkeeping [WNCRAQA Code 4.1111 & 17.0508(f) & 40 CFR 63. 6655 & .6660]

(a) The Permittee shall keep records that show that management practices that are required are being met. These records must include, at a minimum:

(i) Oil and filter change dates and corresponding hour on the hour meter;

(ii) Inspection and replacement dates for air cleaners, hoses, and belts; and

(iii) Records of other emission-related repairs and maintenance performed.

(b) Each record must be kept readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

SECTION 3 - CLEAN AIR INTERSTATE RULE (CAIR) PERMIT REQUIREMENTS

(A) WNCRAQA CODE 4. 2403: NITROGEN OXIDE EMISSIONS

(1) Emission Limitation/Standard [WNCRAQA Code 4.2403]
The total nitrogen oxide (NO_X) emissions from Duke Energy Progress, Inc.'s Asheville Steam Electric Plant shall not exceed, except as provided in WNCRAQA Code 4.2408:

(a) 1,789 tons annually for 2015 and later.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR NO_X sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2403(e)]
The owner or operator of any unit or source covered under WNCRAQA Code 4.2403 shall be subject to the provisions of 40 CFR 96.106(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2403 & 4.2407(a)(1)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.106(b) and (e), and 40 CFR 96 Subpart HH for each CAIR NO_X unit. The emissions of nitrogen oxides of a CAIR NO_X source shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HH shall be used to determine compliance by each CAIR NO_X source with its emissions limitation according to 40 CFR 96.106(c) including 96.106(c)(5) and (6). The provisions of 40 CFR 96.106(d) shall be used for excess emissions.

(B) WNCRAQA CODE 4.2405 - NITROGEN OXIDE EMISSIONS DURING OZONE SEASON

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.2405(a)(1) & (b)]
Ozone season NO_X emissions from Duke Energy Progress, Inc.'s Asheville Steam Electric Plant shall not exceed, except as provided in WNCRAQA Code 4.2408:

(a) 765 tons during the ozone season for 2015 and later.

The ozone season shall be defined as the period of time extending from May 1 to September 30 of each calendar year.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR NO_X Ozone Season sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2405(g)]
The owner or operator of any unit or source covered under WNCRAQA Code 4.2405 shall be subject to the provisions of 40 CFR 96.306(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2405 & 4.2407(a)(3)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.306(b) and (e), and 40 CFR 96 Subpart HHHH for each CAIR Ozone Season NO_X unit. The nitrogen oxide ozone season emissions of a CAIR NO_X Ozone Season source shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NO_X Ozone Season source with its emissions limitation according to 40 CFR 96.306(c) including 96.306(c)(5) and (6). The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

(C) WNCRAQA CODE 4.2404 - SULFUR DIOXIDE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.2404(b)]
The annual allocation of sulfur dioxide allowances shall be determined by EPA. The allocations for CAIR SO_2 units are listed in the table below (these allocations are from 40 CFR 73.10):
(a) Unit 1 - 6,633 for 2010 and later; and

(b) Unit 2 - 5,271 for 2010 and later.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR SO_2 sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2404(f)]
The owner or operator of any unit or source covered under 15A NCAC 2D .2404 shall be subject to the provisions of 40 CFR 96.206(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2404 & 4.2407(a)(2)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.206(b) and (e), and 40 CFR 96 Subpart HHH for each CAIR SO_2 unit. The emissions of sulfur dioxides of a source described in Section 3(C)(1) above shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHH shall be used to determine compliance by each CAIR SO_2 source with its emissions limitation according to 40 CFR 96.206(c) including 96.206(c)(5) and (6). The provisions of 40 CFR 96.206(d) shall be used for excess emissions.

(D) **CAIR PERMIT APPLICATION**
The permit application submitted for this facility, as approved by WNCRAQA, is part of this permit. The owner and operator of these CAIR NO_X and SO_2 sources must comply with the standard requirements and special provisions set forth in the following attached application:

CAIR Permit Application dated June 23, 2014.

SECTION 4 - ACID RAIN PROGRAM REQUIREMENTS

ORIS code: **2706**
Effective: **January 1, 2015 through December 31, 2019**

(A) **Statement of Basis**
Statutory and Regulatory Authorities: In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina, as amended, and Titles IV and V of the Clean Air Act, WNCRAQA issues this permit pursuant to WNCRAQA Code 17.0400 and 17.0500, and other applicable laws.

(B) **SO_2 Allowance Allocations and NO_X Reduction Requirements for Each Affected Unit**
The following table provides a summary of the Title IV applicable requirements for the emission source(s) at this facility:

Emission Source ID	Reduction Requirement	2015	2016	2017	2018	2019
Unit 1 Boiler	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	6,633*	6,633*	6,633*	6,633*	6,633*
Unit 1 Boiler	NO_X Limit	WNCRAQA approves a standard NO_X compliance plan for this unit. The compliance plan is effective for calendar year 2015 through calendar year 2019. Under the compliance plan, this unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR part 75, shall not exceed the applicable				

Emission Source ID	Reduction Requirement	2015	2016	2017	2018	2019
		emission limitation, under 40 CFR 76.7(a)(2) of 0.46 lb/MMBtu for dry bottom wall-fired boilers. In addition to the described NO_X compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.				
Unit 2 Boiler	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	5,271*	5,271*	5,271*	5,271*	5,271*
Unit 2 Boiler	NO_X Limit	WNCRAQA approves a standard NO_X compliance plan for this unit. The compliance plan is effective for calendar year 2015 through calendar year 2019. Under the compliance plan, this unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.7(a)(2) of 0.46 lb/MMBtu for dry bottom wall-fired boilers. In addition to the described NO_X compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.				
Unit 3 IC Turbine and Unit 4 IC Turbine	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	NA**	NA**	NA**	NA**	NA**
	NO_X Limit	NA***				

*The number of allowances allocated to Phase II-affected units by U.S. EPA may change under a future revision to 40 CFR Part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

**SO_2 allowances are not allocated by U.S. EPA for new units under 40 CFR Part 72.

***Does not apply for gas or oil-fired units.

(C) **Comments, Notes, and Justifications**

None.

(D) **Permit Applications (Attached)**

The permit applications submitted for this facility, as approved by WNCRAQA, are part of this permit. The owners and operators of these Phase II acid rain sources must comply with the standard requirements and special provisions set forth in the following attached applications:

Acid Rain Permit Application dated June 23, 2014; and
Acid Rain NO_X Compliance Plan dated March 23, 2015.

SECTION 5 - GENERAL CONDITIONS AND LIMITATIONS

This section describes terms and conditions applicable to this Title V facility.

(A) General Provisions [NCGS 143-215 and WNCRAQA Code 17.0508(i)(16)]

(1) Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in WNCRAQA Code Chapters 4 and 17.

(2) The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by WNCRAQA.

(3) This permit is not a waiver of or approval of any other permits that may be required for other aspects of the facility which are not addressed in this permit.

(4) This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of local laws or rules, unless specifically authorized by an order from WNCRAQA.

(5) Except as identified as local-only requirements in this permit, all terms and conditions contained herein shall be enforceable by WNCRAQA, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.

(6) Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by WNCRAQA, unless the source is exempted by rule. WNCRAQA may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

(B) Permit Availability [WNCRAQA Code 17.0507(k) and 17.0508 (i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of WNCRAQA upon request.

(C) Severability Clause [WNCRAQA Code 17.0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

(D) Submissions [WNCRAQA Code 17.0507(e) and 17.0508(i)(16)]
Except as otherwise specified herein, one copy of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to WNCRAQA.

(E) Duty to Comply [WNCRAQA Code 17.0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as local-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

(F) **Circumvention** - LOCAL ENFORCEABLE ONLY
The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

(G) **Permit Modifications**

(1) Administrative Permit Amendments [WNCRAQA Code 17.0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with WNCRAQA Code 17.0514.

(2) Transfer of Ownership or Operation [WNCRAQA Code 17.0524 and 17.0505]
The Permittee shall submit an application for an ownership change in accordance with WNCRAQA Code 17.0524 and 17.0505.

(3) Minor Permit Modifications [WNCRAQA Code 17.0515]
The Permittee shall submit an application for a minor permit modification in accordance with WNCRAQA Code 17.0515.

(4) Significant Permit Modifications [WNCRAQA Code 17.0516]
The Permittee shall submit an application for a significant permit modification in accordance with WNCRAQA Code 17.0516.

(5) Reopening for Cause [WNCRAQA Code 17.0517]
The Permittee shall submit an application for reopening for cause in accordance with WNCRAQA Code 17.0517.

(H) **Changes Not Requiring Permit Modifications**

(1) Reporting Requirements
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the WNCRAQA:

(a) Changes in the information submitted in the application;

(b) Changes that modify equipment or processes; or

(c) Changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the WNCRAQA to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

(2) Section 502(b)(10) Changes [WNCRAQA Code 17.0523(a)]

(a) "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

(b) The Permittee may make Section 502(b)(10) changes without having the permit revised if:

(i) The changes are not a modification under Title I of the Federal Clean Air Act;

(ii) The changes do not cause the allowable emissions under the permit to be exceeded;

(iii) The Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and

(iv) The Permittee shall attach the notice to the relevant permit.

(c) The written notification shall include:

(i) A description of the change;

(ii) The date on which the change will occur;

(iii) Any change in emissions; and

(iv) Any permit term or condition that is no longer applicable as a result of the change.

(d) Section 502(b)(10) changes shall be made in the permit the next time the permit is revised or renewed, whichever comes first.

(3) Off Permit Changes [WNCRAQA Code 17.0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:

(a) The change affects only insignificant activities and the activities remain insignificant after the change; or

(b) The change is not covered under any applicable requirement.

(4) Emissions Trading [WNCRAQA Code 17.0523(c)]
To the extent that emissions trading is allowed under WNCRAQA Code Chapter 4, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to WNCRAQA Code 17.0523(c).

(I.A) **Reporting Requirements for Excess Emissions and Permit Deviations** [WNCRAQA Code 4.0535(f) and 17.0508(f)(2)]

"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Chapter 4; or by a permit condition; or that exceeds an emission limit established in a permit issued under WNCRAQA Code 17.0700. (*Note: Definitions of excess emissions under 4.1110 and 4.1111 shall apply where defined by rule.)*

"Deviations" - for the purpose of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions, as well as excess emissions as defined above lasting less than four hours.

Excess Emissions

(1) If a source is required to report excess emissions under NSPS (WNCRAQA Code 4.0524), NESHAPs (WNCRAQA Code 4.1110 or 4.1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.

(2) If the source is not subject to NSPS (WNCRAQA Code 4.0524), NESHAPs (WNCRAQA Code 4.1110 or 4.1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with WNCRAQA Code 4.0535 as follows:

(a) Pursuant to WNCRAQA Code 4.0535, if excess emissions last for more than four hours

resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:

(i) Notify the Director of any such occurrence by 9:00 a.m. Eastern Time of the Agency's next business day of becoming aware of the occurrence and provide:

- Name and location of the facility;
- Nature and cause of the malfunction or breakdown;
- Time when the malfunction or breakdown is first observed;
- Expected duration; and
- Estimated rate of emissions;

(ii) Notify the Director immediately when corrective measures have been accomplished; and

(iii) Submit to the Director within 15 days a written report as described in WNCRAQA Code 4.0535(f)(3);

Permit Deviations

(3) Pursuant to WNCRAQA Code 17.0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:

(a) Notify the Director of all other deviations from permit requirements not covered under WNCRAQA Code 4.0535 quarterly. A written report to the Director shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

(I.B) **Other Requirements under WNCRAQA Code 4.0535**
The Permittee shall comply with all other applicable requirements contained in WNCRAQA Code 4.0535, including 4.0535(c), as follows:

(1) Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in WNCRAQA Code 4.0535(c)(1) through (7).

(2) WNCRAQA Code 4.0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

(J) **Emergency Provisions** [40 CFR 70.6(g)]
The Permittee shall be subject to the following provisions with respect to emergencies:

(1) An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

(2) An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in (3) below are met.

(3) The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:

(a) An emergency occurred and the Permittee can identify the cause(s) of the emergency;

(b) The permitted facility was at the time being properly operated;

(c) During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and

(d) The Permittee submitted notice of the emergency to WNCRAQA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.

(4) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(5) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

(K) **Permit Renewal** [WNCRAQA Code 17.0508(e) and 17.0513(b)]
This permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with WNCRAQA Code 17.0512(b)(1), this WNCRAQA Code 17.0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under WNCRAQA Code 17.0400 terminates the facility's right to operate unless a complete WNCRAQA Code 17.0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 2Q .0400 requirements. In either of these events, all terms and conditions of this permit shall remain in effect until the renewal permit has been issued or denied.

(L) **Need to Halt or Reduce Activity Not a Defense** [WNCRAQA Code 17.0508(i)(4)]
It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(M) **Duty to Provide Information (submittal of information)** [WNCRAQA Code 17.0508(i)(9)]

(1) The Permittee shall furnish to WNCRAQA, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.

(2) The Permittee shall furnish WNCRAQA copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

(N) **Duty to Supplement** [WNCRAQA Code 17.0507(f)]
The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to WNCRAQA. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

(O) **Retention of Records** [WNCRAQA Code 17.0508(f) and 17.0508(l)]
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to an authorized WNCRAQA representative for inspection upon request.

(P) **Compliance Certification** [WNCRAQA Code 17.0508(n)]
The Permittee shall submit to WNCRAQA and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street, Atlanta, GA 30303) postmarked on or before **January 30** a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

(1) The identification of each term or condition of the permit that is the basis of the certification;

(2) The compliance status (with the terms and conditions of the permit for the period covered by the certification);

(3) Whether compliance was continuous or intermittent; and

(4) The method(s) used for determining the compliance status of the source during the certification period.

(Q) **Certification by Responsible Official** [WNCRAQA Code 17.0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(R) **Permit Shield for Applicable Requirements** [WNCRAQA Code 17.0512]

(1) Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.

(2) A permit shield shall not alter or affect:

(a) The power of the Director under WNCRAQA Code 1.0102(a)(12), or EPA under Section 303 of the Federal Clean Air Act;

(b) The liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;

(c) The applicable requirements under Title IV; or

(d) The ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.

(3) A permit shield does not apply to any change made at a facility that does not require a permit or

permit revision made under WNCRAQA Code 17.0523.

(4) A permit shield does not extend to minor permit modifications made under WNCRAQA Code 17.0515.

(S) **Termination, Modification, and Revocation of the Permit** [WNCRAQA Code 17.0519]
The Director may terminate, modify, or revoke and reissue this permit if:

(1) The information contained in the application or presented in support thereof is determined to be incorrect;

(2) The conditions under which the permit or permit renewal was granted have changed;

(3) Violations of conditions contained in the permit have occurred;

(4) The EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or

(5) The Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

(T) **Insignificant Activities** [WNCRAQA Code 17.0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized WNCRAQA representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

(U) **Property Rights** [WNCRAQA Code 17.0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

(V) **Inspection and Entry** [WNCRAQA Code 17.0508(l) and 1.0104(d)]

(1) Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow WNCRAQA, or an authorized representative, to perform the following:

(a) Enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

(c) Inspect, at reasonable times and using reasonable safety practices, any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) Sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.

(2) No person shall refuse entry or access to any authorized representative of WNCRAQA who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any

person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his or her official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

(W) **Annual Fee Payment** [WNCRAQA Code 17.0508(i)(10)]

(1) The Permittee shall pay all fees in accordance with WNCRAQA Code 17.0200.

(2) Payment of fees may be by check or money order made payable to the Western North Carolina Regional Air Quality Agency. Annual permit fee payments shall refer to the permit number.

(3) If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under WNCRAQA Code 17.0519.

(X) **Annual Emission Inventory Requirements** [WNCRAQA Code 17.0207]
The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in WNCRAQA Code 17.0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such forms as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

(Y) **Confidential Information** [WNCRAQA Code 17.0107 and 17.0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to WNCRAQA Code 17.0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with WNCRAQA Code 17.0107.

(Z) **Construction and Operation Permits** [WNCRAQA Code 17.0100 and 17.0300]
A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source that is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of WNCRAQA Code 17.0100 and 17.0300.

(AA) **Standard Application Form and Required Information** [WNCRAQA Code 17.0505 and 17.0507]
The Permittee shall submit applications and required information in accordance with the provisions of WNCRAQA Code 17.0505 and 17.0507.

(BB) **Financial Responsibility and Compliance History** [WNCRAQA Code 17.0507(d)(4)]
WNCRAQA may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

(CC) **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [WNCRAQA Code 17.0501(e)]

(1) If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82, Subpart A, Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82, Subpart F.

(2) The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device, except as provided in 40 CFR Part 82, Subpart F.

(3) The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

(DD) **Prevention of Accidental Releases - Section 112(r)** [WNCRAQA Code 17.0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

(EE) **Prevention of Accidental Releases "General Duty" Clause - Section 112(r)(1)** - FEDERALLY ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

(FF) **Title IV Allowances** [WNCRAQA Code 17.0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

(GG) **Air Pollution Emergency Episode** [WNCRAQA Code 4.0300]
Should the Director declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in WNCRAQA Code 4.0300.

(HH) **Registration of Air Pollution Sources** [WNCRAQA Code 4.0202]
The Director may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with WNCRAQA Code 4.0202(b).

(II) **Ambient Air Quality Standards** [WNCRAQA Code 4.0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in WNCRAQA Code 4.0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

(JJ) **General Emissions Testing and Reporting Requirements** [WNCRAQA Code 17.0508(i)(16)]
Emission compliance testing shall be by the procedures of WNCRAQA Code 4 .2600, except as may be otherwise required in WNCRAQA Code 4.0524, 4.0912, 4.1110, 4.1111, or 4.1415. If emissions testing is required by this permit or WNCRAQA or if the Permittee submits emissions testing to WNCRAQA to demonstrate compliance, the Permittee shall perform such testing in accordance with WNCRAQA Code 4.2600 and follow the procedures outlined below:

(1) The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least 45 days before conducting the test.

(2) Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least 15 days before beginning the test so that the Director may at his option observe the test.

(3) The owner or operator of the source shall arrange for controlling and measuring the production

rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.

(4) One copy of the final air emission test report shall be submitted to the Director not later than 30 days after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.

(a) The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:

(i) Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.

(ii) Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.

(iii) Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.

(b) The Director may authorize the WNCRAQA to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the WNCRAQA using the appropriate testing procedures described in WNCRAQA Code 4.2600 has precedence over all other tests.

(KK) <u>Reopening for Cause</u> [WNCRAQA Code 17.0517]

(1) A permit shall be reopened and revised under the following circumstances:

(a) Additional applicable requirements become applicable to a facility with remaining permit term of three or more years;

(b) Additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;

(c) The Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or

(d) The Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(2) Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to WNCRAQA Code 17.0513(c).

(3) Except for the local enforceable only portion of the permit, the procedures set out in WNCRAQA Code 17.0507, 17.0521, or 17.0522 shall be followed to reissue the permit. If the local

enforceable only portion of the permit is reopened, the procedures in WNCRAQA Code 17.0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.

(4) The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.

(5) Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

(LL) **Reporting Requirements for Non-Operating Equipment** [WNCRAQA Code 17.0508(i)(16)]
The Permittee shall maintain a record of operation for permitted equipment, noting whenever the equipment is taken from and placed into operation. During operation, the monitoring, recordkeeping, and reporting requirements, as prescribed by the permit, shall be implemented within the monitoring period.

(MM) **Fugitive Dust Control Requirement** [WNCRAQA Code 4.0540] - LOCAL ENFORCEABLE ONLY
As required by WNCRAQA Code 4.0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in WNCRAQA Code 4.0540(g). "Fugitive dust emissions" means particulate matter that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas, stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

(NN) **Specific Permit Modifications** [WNCRAQA Code 17.0501 and 17.0523]

(1) For modifications made pursuant to WNCRAQA Code 17.0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.

(2) For modifications made pursuant to WNCRAQA Code 17.0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of WNCRAQA Code 17.0500 (except for WNCRAQA Code 17.0504) is obtained.

(3) For modifications made pursuant to 502(b)(10), in accordance with WNCRAQA Code 17.0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA Region 4 - Air Planning Branch, 61 Forsyth St., Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:

(a) A description of the change at the facility;

(b) The date on which the change will occur;

(c) Any change in emissions; and

(d) Any permit term or condition that is no longer applicable as a result of the change.

In addition to this notification requirement, with the next significant modification or Air Quality

Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements

(OO) **Third Party Participation and EPA Review** [WNCRAQA Code 17.0521, 17.0522 and 17.0525(7)]
For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 2Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Insignificant Activities Under WNCRAQA Code 17.0503(8)

Emission Source Description	Control Device Description
Two (2) 1,804,000-gallon capacity aboveground No. 2 fuel oil storage tanks	NA
Two (2) 15,000-gallon capacity urea storage tanks	NA
One (1) 90,000-gallon capacity urea solution feed tank	NA
One (1) 4.00 million BTU per hour natural gas-fired gas heater	NA
One (1) 200-gallon capacity No. 2 fuel oil storage tank	NA
One (1) 280-gallon capacity No. 2 fuel oil storage tank	NA
One (1) 25,000-gallon capacity No. 2 fuel oil storage tank	NA
Two (2) 6,200-gallon capacity lube oil tanks	NA
Two (2) 250-gallon capacity false start drain tanks	NA
One (1) 1,000-gallon capacity kerosene storage tank	NA
One (1) 1,000-gallon capacity gasoline storage tank	NA
One (1) 8,000-gallon capacity batch lube oil tank	NA
One (1) 9,200-gallon capacity batch lube oil tank	NA
One (1) 4,455-gallon capacity turbine lube oil tank with demister	NA
One (1) 3,000-gallon capacity turbine lube oil tank with demister	NA
One (1) 8,000-gallon capacity transformer oil tank	NA
One (1) 500-gallon capacity mobile diesel fuel storage tank	NA
Coal handling / coal pile / ash handling and ash pond	NA
Gypsum handling system	NA
Limestone pile	NA

ATTACHMENT

List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
BTU	British Thermal Unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CI	Compression Ignition
COMS	Continuous Opacity Monitoring System
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NCGS	North Carolina General Statutes
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standard
PM	Particulate Matter
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
$PM_{2.5}$	Particulate Matter with Nominal Aerodynamic Diameter of 2.5 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RICE	Reciprocating Internal Combustion Engine
SI	Spark Ignition
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TPY	Tons Per Year
VOC	Volatile Organic Compound
WNCRAQA	Western North Carolina Regional Air Quality Agency

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 11/30/2012

Acid Rain Permit Application

For more information, see instructions and 40 CFR 72.30 and 72.31.

This submission is: ~ new ~ revised X for Acid Rain permit renewal

STEP 1

Identify the facility name, State, and plant (ORIS) code.

Facility (Source) Name	State	Plant Code
Asheville Steam Electric Plant	NC	2706

STEP 2

Enter the unit ID# for every affected unit at the affected source in column "a."

a	b
Unit ID#	Unit Will Hold Allowances In Accordance with 40 CFR 72.9(c)(1)
1	X
2	X
3	X
4	X

Asheville Steam Electric Plant
Facility (Source) Name (from STEP 1)

STEP 3

Read the standard requirements.

Permit Requirements

(1) The designated representative of each affected source and each affected unit at the source shall:

(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;

(2) The owners and operators of each affected source and each affected unit at the source shall:

(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and

(ii) Have an Acid Rain Permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.

(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the source shall:

(i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and

(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.

(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:

(i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or

(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

Ceron, Heather

From: Johnson, Terry
Sent: Friday, August 26, 2016 10:29 AM
To: Bradley, Twunjala; Gillam, Rick
Cc: Ceron, Heather
Subject: Duke Asheville Petition

Twunjala & Rick,

Below is the link to the folder on the G drive where we keep all the documents pertinent to the Title V petition on the Duke Asheville Plant:

G:\Air Permits Section\Title V Petitions\Petitions Received (By State)\North Carolina\Duke Energy Progress – Asheville

The folder on the G drive with the entire record for this permit is:

G:\Air Permits Section\Title V-NC\WNC\11-628-15

I'll get to work summarizing the petition issues regarding the SO2 NAAQS.

-Terry

Terry Johnson
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404-562-8950
Johnson.Terry@epa.gov

Ceron, Heather

From: McDonald, Janet
Sent: Thursday, August 25, 2016 5:43 PM
To: Ceron, Heather
Subject: RE: Notice of Intent to Sue under the Federal Clean Air Act (Sierra Club Petition to Object to Asheville Title V Permit, No. 11-628-15)

Thanks. (I think). HAH!

From: Ceron, Heather
Sent: Thursday, August 25, 2016 2:18 PM
To: Davis, Scott <Davis.ScottR@epa.gov>; Vetter, Cheryl <Vetter.Cheryl@epa.gov>; McDonald, Janet <McDonald.Janet@epa.gov>
Cc: Hofmeister, Art <Hofmeister.Art@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>
Subject: FW: Notice of Intent to Sue under the Federal Clean Air Act (Sierra Club Petition to Object to Asheville Title V Permit, No. 11-628-15)

FYI

From: Kathryn M. Amirpashaie [mailto:kmalawoffice@gmail.com]
Sent: Thursday, August 25, 2016 2:10 PM
To: Mccarthy, Gina <McCarthy.Gina@epa.gov>
Cc: Smith, Kristi <Smith.Kristi@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; McTeerToney, Heather <McTeerToney.Heather@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Powell, Keri <Powell.Keri@epa.gov>; Josh Stebbins <josh.stebbins@sierraclub.org>; Bridget Lee <bridget.lee@sierraclub.org>
Subject: Notice of Intent to Sue under the Federal Clean Air Act (Sierra Club Petition to Object to Asheville Title V Permit, No. 11-628-15)

Attached please find a copy of the Sierra Club's Notice of Intent to file a citizen suit against the United States Environmental Protection Agency (EPA) and the Administrator of the EPA, based on EPA's failure to perform a nondiscretionary duty pursuant to 42 U.S.C. § 7661d(b)(2) of the Clean Air Act, to either grant or deny a petition to object to a proposed Title V Operating Permit for a North Carolina power plant, filed by the Sierra Club pursuant to CAA section 505(b)(2) of the Act within 60 days after the petition was filed. Specifically, on June 17, 2016, Sierra Club petitioned EPA to object to Proposed Permit No. 11-628-15 issued by the Western North Carolina Regional Air Quality Agency for Duke Energy Progress, Inc.'s **Asheville Steam Electric Plant**, located in Buncombe County, North Carolina. As of today, more than 60 days have elapsed without EPA taking action on said petition.

The attached Notice of Intent to Sue was mailed to the Administrator today via certified mail, as required by law. If you would like to discuss the matters identified in the attached NOI, please contact me directly at kmalawoffice@gmail.com or (703) 771-8394. Thank you.

--
Sincerely,

Kathryn M. Amirpashaie, Esq.
Law Office of Kathryn M. Amirpashaie, PLC
406 Blue Ridge Ave NE
Leesburg, VA 20176
Tel.: 703.771.8394

E-mail: kmalawoffice@gmail.com

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This e-mail may contain privileged and confidential attorney-client communications and/or confidential attorney work product. If you receive this e-mail inadvertently, please notify me and delete all versions on your system. Thank you.

Ceron, Heather

From: Rubini, Suzanne
Sent: Thursday, August 25, 2016 2:43 PM
To: Ceron, Heather; davis.scott@epa.gov; Powell, Keri
Subject: Fwd: Notice of Intent to Sue under the Federal Clean Air Act (Sierra Club Petition to Object to Asheville Title V Permit, No. 11-628-15)
Attachments: 8.25.16 Sierra Club NOI to EPA - Asheville TV Permit Petition.pdf; ATT00001.htm

Sent from my iPhone

Begin forwarded message:

From: "Lee, Michael" <lee.michaelg@epa.gov>
Date: August 25, 2016 at 2:32:07 PM EDT
To: "Vetter, Cheryl" <Vetter.Cheryl@epa.gov>
Cc: "Rubini, Suzanne" <Rubini.Suzanne@epa.gov>
Subject: FW: Notice of Intent to Sue under the Federal Clean Air Act (Sierra Club Petition to Object to Asheville Title V Permit, No. 11-628-15)

Here is the first of two NOI's I received electronically today. (The second will follow shortly.)

Mike

Michael G. Lee | U.S. Environmental Protection Agency
Office of General Counsel | (202) 564-5486

From: Kathryn M. Amirpashaie [mailto:kmalawoffice@gmail.com]
Sent: Thursday, August 25, 2016 2:10 PM
To: Mccarthy, Gina <McCarthy.Gina@epa.gov>
Cc: Smith, Kristi <Smith.Kristi@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; McTeerToney, Heather <McTeerToney.Heather@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Powell, Keri <Powell.Keri@epa.gov>; Josh Stebbins <josh.stebbins@sierraclub.org>; Bridget Lee <bridget.lee@sierraclub.org>
Subject: Notice of Intent to Sue under the Federal Clean Air Act (Sierra Club Petition to Object to Asheville Title V Permit, No. 11-628-15)

Attached please find a copy of the Sierra Club's Notice of Intent to file a citizen suit against the United States Environmental Protection Agency (EPA) and the Administrator of the EPA, based on EPA's failure to perform a nondiscretionary duty pursuant to 42 U.S.C. § 7661d(b)(2) of the Clean Air Act, to either grant or deny a petition to object to a proposed Title V Operating Permit for a North Carolina power plant, filed by the Sierra Club pursuant to CAA section 505(b)(2) of the Act within 60 days after the petition was filed. Specifically, on June 17, 2016, Sierra Club petitioned EPA to object to Proposed Permit No. 11-628-15 issued by the Western North Carolina Regional Air Quality Agency for Duke Energy Progress, Inc.'s **Asheville Steam Electric Plant**, located in Buncombe County, North Carolina. As of today, more than 60 days have elapsed without EPA taking action on said petition.

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--
Sincerely,

Kathryn M. Amirpashaie, Esq.
Law Office of Kathryn M. Amirpashaie, PLC
406 Blue Ridge Ave NE
Leesburg, VA 20176
Tel.: 703.771.8394
E-mail: kmalawoffice@gmail.com

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This e-mail may contain privileged and confidential attorney-client communications and/or confidential attorney work product. If you receive this e-mail inadvertently, please notify me and delete all versions on your system. Thank you.

Ceron, Heather

From: McDonald, Janet
Sent: Thursday, August 25, 2016 11:32 AM
To: Hofmeister, Art; Ceron, Heather
Cc: Johnson, Terry
Subject: RE: Duke Asheville and Roxboro

Thanks!

From: Hofmeister, Art
Sent: Thursday, August 25, 2016 10:32 AM
To: McDonald, Janet <McDonald.Janet@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>
Cc: Johnson, Terry <Johnson.Terry@epa.gov>
Subject: RE: Duke Asheville and Roxboro

Janet:

I believe this is a case where the petitions came in early, *i.e.*, after our 45-day review period but before the petition deadline.

With respect to Roxboro (which I believe the Petitioner cited the incorrect permit number...01001T49 is for an administrative amendment), our database shows the petition deadline (for renewal no. 01001T50) to be **August 17, 2016**. With respect to Asheville, our database shows the petition deadline to be **July 29, 2016**.

Art Hofmeister
Environmental Engineer
Air Permits Section
U.S. EPA
Region 4
(404) 562-9115

From: Ceron, Heather
Sent: Wednesday, August 24, 2016 12:08 PM
To: Hofmeister, Art <Hofmeister.Art@epa.gov>
Subject: FW: Duke Asheville and Roxboro

Can you verify?

From: McDonald, Janet
Sent: Wednesday, August 24, 2016 12:07 PM
To: Ceron, Heather <Ceron.Heather@epa.gov>
Cc: Powell, Keri <Powell.Keri@epa.gov>; Vetter, Cheryl <Vetter.Cheryl@epa.gov>
Subject: Duke Asheville and Roxboro

Hi, Heather-

Can someone in your shop confirm that the Duke Asheville and Roxboro Petitions were timely submitted? I see a date stamp of June 21, 2016 receipt date on the Asheville one.

Thanks

Janet McDonald, Team Lead
Operating Permits Group
Air Quality Policy Division
Office of Air Quality Planning and Standards
U.S. EPA
109 T.W. Alexander Dr., RTP NC 27709
Mail Code C504-05
919 541-1450

Ceron, Heather

From: Ceron, Heather
Sent: Monday, August 22, 2016 9:42 AM
To: Davis, Scott; Hofmeister, Art; Johnson, Terry
Subject: FW: Asheville and Roxboro Title V petitions to object
Attachments: 2016.06.30_EPA receipt of Asheville Petition.pdf; 2016.06.17_Sierra Club Petition to Object_Asheville Title V Permit.pdf; 2016.06.30_EPA receipt of Roxboro Petition.pdf; 2016.06.23_Sierra Club Roxboro Petition to Object_final.pdf

FYI

From: Kathryn M. Amirpashaie [mailto:kmalawoffice@gmail.com]
Sent: Monday, August 22, 2016 8:06 AM
To: Smith, Kristi <Smith.Kristi@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>
Cc: Bridget Lee <bridget.lee@sierraclub.org>; Josh Stebbins <josh.stebbins@sierraclub.org>; McTeerToney, Heather <McTeerToney.Heather@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Powell, Keri <Powell.Keri@epa.gov>
Subject: Asheville and Roxboro Title V petitions to object

Kristi Smith and Michael Lee,

On behalf of the Sierra Club, I wanted to give you a heads-up that, in the next few days, I likely will be sending EPA notices of intent concerning potential deadline suits for a June 17, 2016 petition and a June 23, 2016 petition to EPA to object to two proposed Title V permits for power plants in North Carolina -- Duke Energy's Asheville Steam Electric Plant and Roxboro Steam Electric Plant. I have attached copies of the two Sierra Club petitions, along with correspondence from EPA noting receipt of each.

I am happy to talk about this with you or others at EPA if you would like; please feel free to contact me to do so.

Thank you.

--
Sincerely,

Kathryn M. Amirpashaie, Esq.
Law Office of Kathryn M. Amirpashaie, PLC
406 Blue Ridge Ave NE
Leesburg, VA 20176
Tel.: 703.771.8394
E-mail: kmalawoffice@gmail.com

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This e-mail may contain privileged and confidential attorney-client communications and/or confidential attorney work product. If you receive this e-mail inadvertently, please notify me and delete all versions on your system. Thank you.

Ceron, Heather

From: Ceron, Heather
Sent: Monday, August 01, 2016 10:32 AM
To: Banister, Beverly
Cc: Davis, Scott
Subject: Duke Energy Asheville

Beverly,

Terry and I looked over the Duke Energy Asheville petition. Below is Terry's summary. It hits all the points from my review as well.

I've read through the petition, and it seems straight forward, mirroring several of the issues raised in their comments on the proposed permit. Specifically, the comments and the petition focus on the 2010 SO2 NAAQS and the potential of the facility's emissions to result in downwind exceedances of the NAAQS (as indicated by dispersion modeling conducted by Sierra Club). They cite non-compliance with provisions of North Carolina's rules that prohibit facilities from emitting pollutants in concentrations high enough to cause downwind violations of adopted air standards, and they also repeat their assertions that (1) the facility is now using coal with a much higher sulfur content than in past years and (2) that it appears the facility is no longer operating its scrubbers at optimum efficiency rates. They assert that when WNC added new, more stringent SO2 limits with this permit (to correct an oversight from years past) the new limits should have been based on the current (2010) SO2 NAAQs and modeling data submitted by Sierra Club and not the former NAAQS.

Asheville Plant's Future:
The Asheville plant is about 50 years old and will be retired and decommissioned in 2020 as part of Duke's overall fleet modernization strategy (see https://www.duke-energy.com/about-us/retired-coal-units-potential-retirements.asp). Based on some news reports I've read, the retirement date is somewhat flexible and the shutdown could occur earlier, in 2019.

Heather Ceron
Air Permitting Section Chief
Region 4 US EPA
(404)562-9185

Ceron, Heather

From: Powell, Keri
Sent: Monday, August 01, 2016 9:05 AM
To: Davis, Scott
Cc: Ceron, Heather; Hofmeister, Art
Subject: RE: Duke Energy-Asheville Title V Petition

Here's the link to the petition in the petition database—I scrolled through and it does have all of the pages.
https://www.epa.gov/sites/production/files/2016-06/documents/duke_asheville_petition2016.pdf

From: Davis, Scott
Sent: Monday, August 01, 2016 9:02 AM
To: Powell, Keri <Powell.Keri@epa.gov>
Cc: Ceron, Heather <Ceron.Heather@epa.gov>; Hofmeister, Art <Hofmeister.Art@epa.gov>
Subject: FW: Duke Energy-Asheville Title V Petition

Keri – do you have a copy of the Duke Energy Asheville petition that has all the pages? Thanks.

R. Scott Davis
Chief, Air Planning and Implementation Branch
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center, 61 Forsyth Street, SW
Atlanta, GA 30303-8960
Telephone: (404) 562-9127
email: davis.scottr@epa.gov
http://www.epa.gov/aboutepa/region4
http://www.southeastdiesel.org

From: Koerber, Mike
Sent: Saturday, July 30, 2016 4:58 PM
To: Banister, Beverly <Banister.Beverly@epa.gov>
Cc: Niebling, William <Niebling.William@epa.gov>; Davis, Scott <Davis.ScottR@epa.gov>
Subject: Re: Duke Energy-Asheville Title V Petition

The attachment only has the odd numbered pages. Can you send the whole thing? Thanks.

Sent from my iPhone

On Jul 29, 2016, at 3:02 PM, Banister, Beverly <Banister.Beverly@epa.gov> wrote:

> Sorry William I had planned to send to you this morning. I spoke with R4 folks this morning and asked them to take a closer look at it. I did not mention to Mike.
> Beverly
>
> Sent from my iPhone
>
> Begin forwarded message:

From: "Davis, Scott" <Davis.ScottR@epa.gov>
Date: July 28, 2016 at 4:35:34 PM EDT
To: "Banister, Beverly" <Banister.Beverly@epa.gov>, "Kemker, Carol" <Kemker.Carol@epa.gov>, "Ceron, Heather" <Ceron.Heather@epa.gov>
Subject: RE: Duke Energy-Asheville Title V Petition

This petition was filed this summer so we don't have one yet. Here is a copy of the petition filed in June 2016. We responded with letter following normal process to acknowledge receipt of the petition.

R. Scott Davis
Chief, Air Planning and Implementation Branch
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center, 61 Forsyth Street, SW
Atlanta, GA 30303-8960
Telephone: (404) 562-9127
email: davis.scottr@epa.gov
http://www.epa.gov/aboutepa/region4
http://www.southeastdiesel.org

-----Original Message-----
From: Banister, Beverly
Sent: Thursday, July 28, 2016 4:28 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Davis, Scott <Davis.ScottR@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Asheville Title V Petition

Do you have an issue paper which describes the concerns that are being raised?

Sent from my iPhone

<Duke Energy Asheville petition-June 17 2016.pdf>

Ceron, Heather

From: Davis, Scott
Sent: Monday, August 01, 2016 9:02 AM
To: Powell, Keri
Cc: Ceron, Heather; Hofmeister, Art
Subject: FW: Duke Energy-Asheville Title V Petition

Keri – do you have a copy of the Duke Energy Asheville petition that has all the pages? Thanks.

R. Scott Davis
Chief, Air Planning and Implementation Branch
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center, 61 Forsyth Street, SW
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Telephone: (404) 562-9127
email: davis.scottr@epa.gov
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http://www.southeastdiesel.org

From: Koerber, Mike
Sent: Saturday, July 30, 2016 4:58 PM
To: Banister, Beverly <Banister.Beverly@epa.gov>
Cc: Niebling, William <Niebling.William@epa.gov>; Davis, Scott <Davis.ScottR@epa.gov>
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Sent from my iPhone

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> Begin forwarded message:
>
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> > **Date:** July 28, 2016 at 4:35:34 PM EDT
> > **To:** "Banister, Beverly" <Banister.Beverly@epa.gov>, "Kemker, Carol" <Kemker.Carol@epa.gov>, "Ceron, Heather" <Ceron.Heather@epa.gov>
> > **Subject: RE: Duke Energy-Asheville Title V Petition**
> >
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Chief, Air Planning and Implementation Branch
U.S. Environmental Protection Agency, Region 4
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email: davis.scottr@epa.gov
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-----Original Message-----
From: Banister, Beverly
Sent: Thursday, July 28, 2016 4:28 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Davis, Scott <Davis.ScottR@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Asheville Title V Petition

Do you have an issue paper which describes the concerns that are being raised?

Sent from my iPhone

<Duke Energy Asheville petition-June 17 2016.pdf>

Ceron, Heather

From: Johnson, Terry
Sent: Friday, July 29, 2016 10:17 AM
To: Ceron, Heather; Hofmeister, Art
Subject: RE: Duke Asheville

Hi Heather! Here's a quick summary of the petition and where we stand:

Scans of the Petition:
We have set up a folder in the petitions section of our local Sharepoint site and have uploaded a copy of the petition, exhibits, and the cover letter. We still need to upload copies of the draft and final permits, narrative, and other relevant documents.

The Issues:
I've read through the petition, and it seems straight forward, mirroring several of the issues raised in their comments on the proposed permit. Specifically, the comments and the petition focus on the 2010 SO2 NAAQS and the potential of the facility's emissions to result in downwind exceedances of the NAAQS (as indicated by dispersion modeling conducted by Sierra Club). They cite non-compliance with provisions of North Carolina's rules that prohibit facilities from emitting pollutants in concentrations high enough to cause downwind violations of adopted air standards, and they also repeat their assertions that (1) the facility is now using coal with a much higher sulfur content than in past years and (2) that it appears the facility is no longer operating its scrubbers at optimum efficiency rates. They assert that when WNC added new, more stringent SO2 limits with this permit (to correct an oversight from years past) the new limits should have been based on the current (2010) SO2 NAAQs and modeling data submitted by Sierra Club and not the former NAAQS.

Asheville Plant's Future:
The Asheville plant is about 50 years old and will be retired and decommissioned in 2020 as part of Duke's overall fleet modernization strategy (see https://www.duke-energy.com/about-us/retired-coal-units-potential-retirements.asp). Based on some news reports I've read, the retirement date is somewhat flexible and the shutdown could occur earlier, in 2019.

Let us know if you need anything else!

Terry Johnson
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404-562-8950
Johnson.Terry@epa.gov

From: Ceron, Heather
Sent: Friday, July 29, 2016 9:34 AM
To: Hofmeister, Art; Johnson, Terry
Subject: Duke Asheville

Have either of you scanned the Duke Asheville petition? Does it look straight forward? Beverly is asking about it. I will be reading through it today, but would also like your take. I just need to let Beverly know early next week. Nothing indepth.

Terry = Can you remind me if this is a facility that was shutting down or making some sort of change that was decreasing emissions soon?

Heather Ceron
Air Permitting Section Chief
Region 4 US EPA
(404)562-9185

Ceron, Heather

From: Hofmeister, Art
Sent: Friday, July 29, 2016 9:36 AM
To: Ceron, Heather; Johnson, Terry
Subject: RE: Duke Asheville

I will double-check, but have not looked into the issues.

Art Hofmeister
Environmental Engineer
Air Permits Section
U.S. EPA
Region 4
(404) 562-9115

From: Ceron, Heather
Sent: Friday, July 29, 2016 9:34 AM
To: Hofmeister, Art <Hofmeister.Art@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>
Subject: Duke Asheville

Have either of you scanned the Duke Asheville petition? Does it look straight forward? Beverly is asking about it. I will be reading through it today, but would also like your take. I just need to let Beverly know early next week. Nothing indepth.

Terry = Can you remind me if this is a facility that was shutting down or making some sort of change that was decreasing emissions soon?

Heather Ceron
Air Permitting Section Chief
Region 4 US EPA
(404)562-9185

Ceron, Heather

From: Davis, Scott
Sent: Thursday, July 28, 2016 4:36 PM
To: Banister, Beverly; Kemker, Carol; Ceron, Heather
Subject: RE: Duke Energy-Asheville Title V Petition
Attachments: Duke Energy Asheville petition-June 17 2016.pdf

This petition was filed this summer so we don't have one yet. Here is a copy of the petition filed in June 2016. We responded with letter following normal process to acknowledge receipt of the petition.

R. Scott Davis
Chief, Air Planning and Implementation Branch U.S. Environmental Protection Agency, Region 4 Sam Nunn Atlanta Federal Center, 61 Forsyth Street, SW Atlanta, GA 30303-8960
Telephone: (404) 562-9127
email: davis.scottr@epa.gov
http://www.epa.gov/aboutepa/region4
http://www.southeastdiesel.org

-----Original Message-----
From: Banister, Beverly
Sent: Thursday, July 28, 2016 4:28 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Davis, Scott <Davis.ScottR@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Asheville Title V Petition

Do you have an issue paper which describes the concerns that are being raised?

Sent from my iPhone

Ceron, Heather

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Wednesday, June 29, 2016 2:36 PM
To: Johnson, Terry; Purvis, James
Cc: James C. Raiford; david.brigman@buncombecounty.org; Betsy Brown; Ceron, Heather
Subject: RE: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached

Terry,

Per our phone conversation today regarding the petition that the Sierra club has filed regarding our proposed Duke Energy Permit Renewal, this permit has not been issued. It is scheduled to be considered at our upcoming board meeting on July 11, 2016. If the board votes to issue the permit per the staff recommendation, the issue date will be July 11, 2016.

Please let me know if you need any additional information.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Johnson, Terry [mailto:Johnson.Terry@epa.gov]
Sent: Friday, April 15, 2016 5:28 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>; Purvis, James <Purvis.James@epa.gov>
Cc: James C. Raiford <James.Raiford@buncombecounty.org>; David Brigman <David.Brigman@buncombecounty.org>; Betsy Brown <betsy.brown@buncombecounty.org>; Ceron, Heather <Ceron.Heather@epa.gov>
Subject: RE: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached

Thanks, Ashley.

Terry Johnson
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404-562-8950
Johnson.Terry@epa.gov

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Friday, April 15, 2016 4:59 PM
To: Johnson, Terry; Purvis, James
Cc: James C. Raiford; david.brigman@buncombecounty.org; Betsy Brown; Ceron, Heather
Subject: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached

Terry and James,

Attached are two files with the amended draft permit, one shows the changes highlighted from when it was first submitted last year. In addition to adding the condition with the mass based SO2 limit for Units 1 and 2 (discussion on this starts on page 15 of response to comments document) and correcting the associated cross references (starting on page 5 of the permit), we corrected a couple of minor typographical errors and omissions. A reference to the CAIR condition for SO2 was added to the table on page 4, a correction was made to an incorrect reference in what was Condition 2.1(L), that condition is now 2.1(M) (Use of Projected Actual Emissions to Avoid PSD), and we corrected an incorrect rule reference in the monitoring and recordkeeping section of Condition 2.1(B).

Also attached is our permit review form (same as submitted last year), and two files with the modeling report and review (per the revised SO2 limit as noted in the paragraph above), and our response to comments document, which is a memo to our board. I will send several files with the actual comments in a separate message, the files are large. Please let me know if you have any questions or need additional information. It is our understanding that EPA's 45 day review period will begin now that the revised draft permit and additional documents have been submitted.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
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ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Ashley Featherstone
Sent: Thursday, February 11, 2016 5:04 PM
To: 'Lorinda Shepherd (shepherd.lorinda@epa.gov)' <shepherd.lorinda@epa.gov>; Terry Johnson (johnson.terry@epa.gov) <johnson.terry@epa.gov>; James Purvis (purvis.james@epa.gov) <purvis.james@epa.gov>
Cc: James Raiford (james.raiford@buncombecounty.org) <james.raiford@buncombecounty.org>; David Brigman <David.Brigman@buncombecounty.org>; Betsy Brown (betsy.brown@buncombecounty.org) <betsy.brown@buncombecounty.org>
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

Lori, Terry, and James,

I am writing to provide a brief update on the Duke Energy Progress (DEP) permit renewal for the Asheville Steam Plant, per my conversation with Lori earlier today. As you know, we submitted a draft permit for renewal to Region 4 on March 26, 2015. The public notice was issued on the same day. A public hearing was held on April 29th. The public comment period ran through May 7, 2015. We received 690 comments. The permit was taken out of concurrent review. In November of 2015, we completed the review of the comments and discovered that more information was needed concerning the SO2 limit in the current and proposed permit.

Commenters at the hearing (oral comments) had pointed out that all other coal fired power plants in NC had more stringent SO2 limits than Asheville (statewide limit for sources not subject to an NSPS or other standard is 2.3 lbs SO2/MMBtu heat input, that is the limit in the current and proposed permit). Upon further review, it was determined that the commenters were correct. Apparently, when the stacks were modified for the installation of scrubbers required by the NC Clean Smokestacks Act (NC CSA), DAQ required the coal fired power plants to model for compliance with the SO2 NAAQS that was in place at the time (this was prior to 2010). The reason that modeling was requested appears to be that modeling had previously been done by all coal fired power plants in NC (including Asheville) back in the 1980s for NAAQS compliance when NC raised the SO2 limit to 2.3 lbs/MMBtu, this modeling was required by EPA for SIP approval. Modeling was required by NC for the NC CSA permit modifications since stack parameters were changing for the installation of the scrubbers. The stacks were lowered at that time. The Asheville steam plant modeled for compliance with the SO2 standard back in the 1980s, when the other plants modeled. However, WNCRAQA did not require Progress Energy to remodel for the SO2 standard in 2003 when the permit was modified for installation of the scrubbers. We reviewed the permit modification file for 2003 and found that Progress Energy referenced a screening level dispersion modeling analysis that was conducted to ensure that air quality conditions would be preserved with the new stack height. But, no actual modeling analysis was submitted. Our modification was the first one in NC for NC CSA (2003), there was no reference to the 1980s modeling in the permit modification file, and this was prior to NC requiring modeling of the other plants. When we discovered that all of the other plants had to take more stringent limits when they remodeled in the 2000s, we became concerned that modeling for Asheville would show a lower limit was needed and as such, requested that the facility model for compliance with the SO2 NAAQS that was in place back in 2003. The request to the facility for more information was made on November 30, 2015. A modeling protocol was submitted by DEP on January 14, 2016. The protocol was approved on January 29, 2016. We expect to receive the modeling from DEP next week. We are planning to review it and submit the draft permit, public comments, and our responses to comments to EPA as soon as possible.

The expiration date on the current DEP permit is May 31, 2015. Since the facility submitted a timely and complete application prior to the due date of August 31, 2014 (application was received on August 22, 2014), the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied (per Chapter 17 .0513(c) of our code).

Please let us know if you need any additional information from us at this time. We appreciate your assistance with this permit.

Thanks,

Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 09, 2016 5:30 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Subject: Sierra Club request for final Title V permit for Asheville coal plant

Good afternoon Ashley,

I received your message regarding the additional analyses WNCRAQA has requested from Duke Energy. While we appreciate the effort to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. We believe the agency has all the information it needs to set permit limits that protect public health, and we urge you to finalize the permit for this facility without further delay. To that end, please find attached Sierra Club's formal request that WNCRAQA issue a final Title V permit for the Asheville coal plant.

Many thanks,

Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Hofmeister, Art
Sent: Monday, June 27, 2016 4:16 PM
To: Powell, Keri; Fortin, Kelly; Davis, Scott
Cc: Ceron, Heather
Subject: RE: New Petitions

I was just handed both by Kelly.

Art Hofmeister
Environmental Engineer
Air Permits Section
U.S. EPA
Region 4
(404) 562-9115

From: Powell, Keri
Sent: Monday, June 27, 2016 4:11 PM
To: Fortin, Kelly <Fortin.Kelly@epa.gov>; Davis, Scott <Davis.ScottR@epa.gov>; Hofmeister, Art <Hofmeister.Art@epa.gov>
Cc: Ceron, Heather <Ceron.Heather@epa.gov>
Subject: RE: New Petitions

I got Asheville but not Roxboro.

From: Fortin, Kelly
Sent: Monday, June 27, 2016 3:25 PM
To: Davis, Scott <Davis.ScottR@epa.gov>; Hofmeister, Art <Hofmeister.Art@epa.gov>; Powell, Keri <Powell.Keri@epa.gov>
Cc: Ceron, Heather <Ceron.Heather@epa.gov>
Subject: New Petitions

Just as a heads up -

On Friday we received 2 new Title V petitions - Duke Energy's Ashville Steam Electric Plant, as well as their Roxboro N.C. plant. The petitions are making their way through the mail log-in.

Kelly Fortin
Environmental Engineer
Air Permits Technical & Policy Advisor
EPA Region 4, Atlanta GA
404-562-9117

Ceron, Heather

From: Hash, Kathy <kathy.hash@ncdenr.gov>
Sent: Friday, June 24, 2016 4:33 PM
To: Shepherd, Lorinda; Ceron, Heather; Johnson, Terry
Cc: Horne, Connie
Subject: final permits
Attachments: 01001T50.pdf; 01954T29.pdf; 03713T36.pdf; 05755T19.pdf; 09321T05.pdf

Kathy Hash
Information Processing Assistant
North Carolina Department of Environmental Quality
Division of Air Quality,Permitting Section
Phone/Fax: 919-707-8734
kathy.hash@ncdenr.gov
217 West Jones Street 4430-I
Raleigh, NC 27603
1641 Mail Service Center
Raleigh, NC 27699-1641
www.ncair.org

Nothing Compares

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

Ceron, Heather

From: Ceron, Heather
Sent: Friday, June 24, 2016 12:08 PM
To: Powell, Keri
Subject: RE: Just received title V petition from Sierra Club for Duke Energy's Asheville Plant

Yea☹

From: Powell, Keri
Sent: Friday, June 24, 2016 10:05 AM
To: Vetter, Cheryl <Vetter.Cheryl@epa.gov>; McDonald, Janet <McDonald.Janet@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>; Hofmeister, Art <Hofmeister.Art@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Davis, Scott <Davis.ScottR@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Just received title V petition from Sierra Club for Duke Energy's Asheville Plant

Just a heads up that I just received a paper copy of a title V petition from Sierra Club seeking EPA's objection to the title V operating permit for Duke Energy's Asheville Plant. The petition also went by overnight mail to the Administrator's office. I have a CD with exhibits.

Keri N. Powell
Senior Attorney for Air Counseling
EPA Region 4
Atlanta, Georgia
(404) 562-9567
Powell.keri@epa.gov

Ceron, Heather

From: Powell, Keri
Sent: Friday, June 24, 2016 10:27 AM
To: Vetter, Cheryl; McDonald, Janet; Ceron, Heather; Hofmeister, Art; Rubini, Suzanne; Davis, Scott; Kemker, Carol
Subject: ATTACHED petition from Sierra Club for Duke Energy's Asheville Plant
Attachments: Duke Energy Asheville petition.pdf

I scanned the Duke Energy Asheville petition. See attached. I also have the exhibits, but I'll pass them along to Art to get loaded up into the right places.

Note that this petition was filed by a Sierra Club attorney out of their DC office, so I would expect a deadline suit.

From: Powell, Keri
Sent: Friday, June 24, 2016 10:05 AM
To: Vetter, Cheryl <Vetter.Cheryl@epa.gov>; McDonald, Janet <McDonald.Janet@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>; Hofmeister, Art <Hofmeister.Art@epa.gov>; Rubini, Suzanne <rubini.suzanne@epa.gov>; ScottR Davis <Davis.ScottR@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Just received title V petition from Sierra Club for Duke Energy's Asheville Plant

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Keri N. Powell
Senior Attorney for Air Counseling
EPA Region 4
Atlanta, Georgia
(404) 562-9567
Powell.keri@epa.gov

Ceron, Heather

From: Powell, Keri
Sent: Friday, June 24, 2016 10:05 AM
To: Vetter, Cheryl; McDonald, Janet; Ceron, Heather; Hofmeister, Art; Rubini, Suzanne; Davis, Scott; Kemker, Carol
Subject: Just received title V petition from Sierra Club for Duke Energy's Asheville Plant

Just a heads up that I just received a paper copy of a title V petition from Sierra Club seeking EPA's objection to the title V operating permit for Duke Energy's Asheville Plant. The petition also went by overnight mail to the Administrator's office. I have a CD with exhibits.

Keri N. Powell
Senior Attorney for Air Counseling
EPA Region 4
Atlanta, Georgia
(404) 562-9567
Powell.keri@epa.gov

Ceron, Heather

From: Ceron, Heather
Sent: Friday, June 17, 2016 8:04 AM
To: Johnson, Terry
Subject: Duke Asheville

Terry,

Can you give me a quick update on this one? Julie Mayfiled is calling about it as well. When is our 45 day review up? Thanks!

Heather Ceron
Air Permitting Section Chief
Region 4 US EPA
(404)562-9185

Ceron, Heather

From: Ceron, Heather
Sent: Wednesday, June 01, 2016 10:23 AM
To: Johnson, Terry
Subject: FW: Asheville Title V permit renewal

Can you give Bridgett a call on the Duke Energy Asheville plant?

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Wednesday, June 01, 2016 10:19 AM
To: Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Asheville Title V permit renewal

Hi Heather,

Hoping you might have a few minutes this week to discuss our concerns with the proposed permit for the Asheville coal plant. If there's a particular time that work best for you, please let me know, or feel free to give me a call at your convenience.

Many thanks,

Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Ceron, Heather
Sent: Thursday, May 19, 2016 1:16 PM
To: Johnson, Terry
Subject: FW: Renewal of Title V Permit for Asheville Steam Electric Plant, North Carolina
Attachments: 2016.05.19 Sierra Club letter re Asheville Title V Permit Renewal.pdf

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Thursday, May 19, 2016 12:30 PM
To: Ceron, Heather <Ceron.Heather@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>
Subject: Renewal of Title V Permit for Asheville Steam Electric Plant, North Carolina

Hi Heather,

Attached please find a letter detailing Sierra Club's position with respect to the proposed Title V permit for the Asheville Steam Electric Plant, published by the Western North Carolina Regional Air Quality Agency.

We look forward to discussing with you our concerns regarding the proposed permit at your earliest convenience.

Many thanks,

Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Bridget Lee <bridget.lee@sierraclub.org>
Sent: Thursday, May 19, 2016 12:30 PM
To: Ceron, Heather
Cc: Banister, Beverly
Subject: Renewal of Title V Permit for Asheville Steam Electric Plant, North Carolina
Attachments: 2016.05.19 Sierra Club letter re Asheville Title V Permit Renewal.pdf

Hi Heather,

Attached please find a letter detailing Sierra Club's position with respect to the proposed Title V permit for the Asheville Steam Electric Plant, published by the Western North Carolina Regional Air Quality Agency.

We look forward to discussing with you our concerns regarding the proposed permit at your earliest convenience.

Many thanks,

Bridget

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Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Ceron, Heather
Sent: Monday, May 09, 2016 10:37 AM
To: Johnson, Terry
Subject: Duke Energy - Asheville

Terry,

Sometime this week (not today☺) we need to talk about Duke Energy Asheville. Bridgett Lee with Sierra called saying they still have concerns. I just wanted to know if we had that we need to address with NC.

Thanks!!!

Heather Ceron
Air Permitting Section Chief
Region 4 US EPA
(404)562-9185

Ceron, Heather

From: Johnson, Terry
Sent: Friday, April 15, 2016 5:28 PM
To: Ashley Featherstone; Purvis, James
Cc: James C. Raiford; david.brigman@buncombecounty.org; Betsy Brown; Ceron, Heather
Subject: RE: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached

Thanks, Ashley.

Terry Johnson
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404-562-8950
Johnson.Terry@epa.gov

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Friday, April 15, 2016 4:59 PM
To: Johnson, Terry; Purvis, James
Cc: James C. Raiford; david.brigman@buncombecounty.org; Betsy Brown; Ceron, Heather
Subject: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached

Terry and James,

Attached are two files with the amended draft permit, one shows the changes highlighted from when it was first submitted last year. In addition to adding the condition with the mass based SO2 limit for Units 1 and 2 (discussion on this starts on page 15 of response to comments document) and correcting the associated cross references (starting on page 5 of the permit), we corrected a couple of minor typographical errors and omissions. A reference to the CAIR condition for SO2 was added to the table on page 4, a correction was made to an incorrect reference in what was Condition 2.1(L), that condition is now 2.1(M) (Use of Projected Actual Emissions to Avoid PSD), and we corrected an incorrect rule reference in the monitoring and recordkeeping section of Condition 2.1(B).

Also attached is our permit review form (same as submitted last year), and two files with the modeling report and review (per the revised SO2 limit as noted in the paragraph above), and our response to comments document, which is a memo to our board. I will send several files with the actual comments in a separate message, the files are large. Please let me know if you have any questions or need additional information. It is our understanding that EPA's 45 day review period will begin now that the revised draft permit and additional documents have been submitted.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101

Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

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From: Ashley Featherstone
Sent: Thursday, February 11, 2016 5:04 PM
To: 'Lorinda Shepherd (shepherd.lorinda@epa.gov)' <shepherd.lorinda@epa.gov>; Terry Johnson (johnson.terry@epa.gov) <johnson.terry@epa.gov>; James Purvis (purvis.james@epa.gov) <purvis.james@epa.gov>
Cc: James Raiford (james.raiford@buncombecounty.org) <james.raiford@buncombecounty.org>; David Brigman <David.Brigman@buncombecounty.org>; Betsy Brown (betsy.brown@buncombecounty.org) <betsy.brown@buncombecounty.org>
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

Lori, Terry, and James,

I am writing to provide a brief update on the Duke Energy Progress (DEP) permit renewal for the Asheville Steam Plant, per my conversation with Lori earlier today. As you know, we submitted a draft permit for renewal to Region 4 on March 26, 2015. The public notice was issued on the same day. A public hearing was held on April 29th. The public comment period ran through May 7, 2015. We received 690 comments. The permit was taken out of concurrent review. In November of 2015, we completed the review of the comments and discovered that more information was needed concerning the SO2 limit in the current and proposed permit.

Commenters at the hearing (oral comments) had pointed out that all other coal fired power plants in NC had more stringent SO2 limits than Asheville (statewide limit for sources not subject to an NSPS or other standard is 2.3 lbs SO2/MMBtu heat input, that is the limit in the current and proposed permit). Upon further review, it was determined that the commenters were correct. Apparently, when the stacks were modified for the installation of scrubbers required by the NC Clean Smokestacks Act (NC CSA), DAQ required the coal fired power plants to model for compliance with the SO2 NAAQS that was in place at the time (this was prior to 2010). The reason that modeling was requested appears to be that modeling had previously been done by all coal fired power plants in NC (including Asheville) back in the 1980s for NAAQS compliance when NC raised the SO2 limit to 2.3 lbs/MMBtu, this modeling was required by EPA for SIP approval. Modeling was required by NC for the NC CSA permit modifications since stack parameters were changing for the installation of the scrubbers. The stacks were lowered at that time. The Asheville steam plant modeled for compliance with the SO2 standard back in the 1980s, when the other plants modeled. However, WNCRAQA did not require Progress Energy to remodel for the SO2 standard in 2003 when the permit was modified for installation of the scrubbers. We reviewed the permit modification file for 2003 and found that Progress Energy referenced a screening level dispersion modeling analysis that was conducted to ensure that air quality conditions would be preserved with the new stack height. But, no actual modeling analysis was submitted. Our modification was the first one in NC for NC CSA (2003), there was no reference to the 1980s modeling in the permit modification file, and this was prior to NC requiring modeling of the other plants. When we discovered that all of the other plants had to take more stringent limits when they remodeled in the 2000s, we became concerned that modeling for Asheville would show a lower limit was needed and as such, requested that the facility model for compliance with the SO2 NAAQS that was in place back in 2003. The request to the facility for more information was made on November 30, 2015. A modeling protocol was submitted by

DEP on January 14, 2016. The protocol was approved on January 29, 2016. We expect to receive the modeling from DEP next week. We are planning to review it and submit the draft permit, public comments, and our responses to comments to EPA as soon as possible.

The expiration date on the current DEP permit is May 31, 2015. Since the facility submitted a timely and complete application prior to the due date of August 31, 2014 (application was received on August 22, 2014), the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied (per Chapter 17 .0513(c) of our code).

Please let us know if you need any additional information from us at this time. We appreciate your assistance with this permit.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 09, 2016 5:30 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Subject: Sierra Club request for final Title V permit for Asheville coal plant

Good afternoon Ashley,

I received your message regarding the additional analyses WNCRAQA has requested from Duke Energy. While we appreciate the effort to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. We believe the agency has all the information it needs to set permit limits that protect public health, and we urge you to finalize the permit for this facility without further delay. To that end, please find attached Sierra Club's formal request that WNCRAQA issue a final Title V permit for the Asheville coal plant.

Many thanks,

Bridget

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Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Friday, April 15, 2016 5:07 PM
To: Johnson, Terry; Purvis, James
Cc: James C. Raiford; david.brigman@buncombecounty.org; Betsy Brown; Ceron, Heather
Subject: RE: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached
Attachments: Appendix B part 2 - Written Comments.pdf

Last file attached,

Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

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From: Ashley Featherstone
Sent: Friday, April 15, 2016 4:59 PM
To: Terry Johnson (johnson.terry@epa.gov) <johnson.terry@epa.gov>; James Purvis (purvis.james@epa.gov) <purvis.james@epa.gov>
Cc: James Raiford (james.raiford@buncombecounty.org) <james.raiford@buncombecounty.org>; David Brigman <David.Brigman@buncombecounty.org>; Betsy Brown (betsy.brown@buncombecounty.org) <betsy.brown@buncombecounty.org>; Ceron, Heather (Ceron.Heather@epa.gov) <Ceron.Heather@epa.gov>
Subject: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached

Terry and James,

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Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

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Please let us know if you need any additional information from us at this time. We appreciate your assistance with this permit.

Thanks,
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Sent: Tuesday, February 09, 2016 5:30 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Subject: Sierra Club request for final Title V permit for Asheville coal plant

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Many thanks,

Bridget

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Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Friday, April 15, 2016 5:07 PM
To: Johnson, Terry; Purvis, James
Cc: James C. Raiford; david.brigman@buncombecounty.org; Betsy Brown; Ceron, Heather
Subject: RE: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached
Attachments: Appendix B part 1 - Written Comments.pdf; Appendix C part 1 - Sierra Club Comments.pdf; Appendix C part 2 - Email Comments.pdf

Attached are 3 files with comments received. I will send the last file separately due to file size.

Thanks,
Ashley

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Subject: Duke Energy Progress Asheville Steam Plant-Amended Draft Permit and Response to Comments Attached
Attachments: Permit No. 11-628-15 DRAFT amended 2016 changes accepted.docx; Permit No. 11-628-15 DRAFT amended 2016 changes highlighted.docx; 11-628-15 Permit Review Form.docx; 02-16-16 12512C Retroactive SO2 Modeling Analysis Submittal.pdf; Duke Asheville_Buncombe.pdf; Memo to Board with Appendices.pdf

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bridget.lee@sierraclub.org

Ceron, Heather

From: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Sent: Friday, April 08, 2016 3:33 PM
To: Johnson, Terry; Purvis, James
Cc: Ceron, Heather; Betsy Brown; James C. Raiford
Subject: RE: PRE-DRAFT permit renewal and response to comments for Duke Energy Progress Asheville Steam Plan
Attachments: removed.txt; 02-16-16 12512C Retroactive SO2 Modeling Analysis Submittal.pdf; Duke Asheville_Buncombe.pdf; Memo to Board on Comments from Duke Energy Hearing_Predraft 0324016 Rev2.doc

Terry and James,

Per our conversation, attached are two pdf files with more information about the modeling that DEP conducted for the new SO2 limit included in the draft permit. The first file is the report that was submitted by DEP. The second file is a memo from Tom Anderson of NC DAQ, who reviewed the modeling for us. If you are interested in the actual modeling files, please let me know and I can provide those via Dropbox or mail.

I have also attached the response to comments document that we sent previously, PRE-DRAFT version.

Thanks for your assistance,

Ashley

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From: Ashley Featherstone
Sent: Thursday, March 24, 2016 5:48 PM
To: Terry Johnson (johnson.terry@epa.gov) <johnson.terry@epa.gov>; James Purvis (purvis.james@epa.gov) <purvis.james@epa.gov>
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Ceron, Heather

From: Johnson, Terry
Sent: Monday, March 28, 2016 10:27 AM
To: Ashley Featherstone; Purvis, James
Cc: Ceron, Heather; Betsy Brown; James C. Raiford
Subject: RE: PRE-DRAFT permit renewal and response to comments for Duke Energy Progress Asheville Steam Plan

Thanks, Ashley – I'll start looking at it today.

-Terry

Terry Johnson
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404-562-8950
Johnson.Terry@epa.gov

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Subject: PRE-DRAFT permit renewal and response to comments for Duke Energy Progress Asheville Steam Plan

Terry and James,

Attached are two files with the amended draft permit, one shows the changes highlighted from when it was first submitted last year. In addition to adding the condition with the mass based SO2 limit for Units 1 and 2 (discussion on this starts on page 16 of response to comments document) and correcting the associated cross references (starting on page 5), we corrected a couple of minor typographical errors and omissions. A reference to the CAIR condition for SO2 was added to the table on page 4, a correction was made to an incorrect reference in what was Condition 2.1(L), that condition is now 2.1(M) (Use of Projected Actual Emissions to Avoid PSD), and we corrected an incorrect rule reference in the monitoring and recordkeeping section of Condition 2.1(B).

Also attached is our response to comments document, which is a memo to our board. Please let me know if you have any questions or comments.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778

Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

Ceron, Heather

From: Ceron, Heather
Sent: Monday, March 14, 2016 2:49 PM
To: Ashley Featherstone
Cc: Johnson, Terry; Betsy Brown; James C. Raiford; david.brigman@buncombecounty.org
Subject: RE: Duke Energy - Asheville

Ok, please let us know if you run into a delay.

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Monday, March 14, 2016 2:31 PM
To: Ceron, Heather <Ceron.Heather@epa.gov>
Cc: Johnson, Terry <Johnson.Terry@epa.gov>; Betsy Brown <betsy.brown@buncombecounty.org>; James C. Raiford <James.Raiford@buncombecounty.org>; david.brigman@buncombecounty.org
Subject: RE: Duke Energy - Asheville

Heather,

We expect to have a draft ready for review in the next couple of weeks. Final version of response to comments with comments and changes to the draft permit to EPA for review within the next 4 weeks, hopefully sooner.

We requested more information from Duke at the end of November. We received the additional information from them in February. We are incorporating that information into the response to comments and draft permit right now.

Please let me know if you need additional details,

Thanks,
Ashley

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From: Ceron, Heather [mailto:Ceron.Heather@epa.gov]
Sent: Monday, March 14, 2016 1:57 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Cc: Johnson, Terry <Johnson.Terry@epa.gov>
Subject: Duke Energy - Asheville

Ashley,

Could you provide us with the timing of this permit? When will you be proposing it to EPA? Thanks so much! We have been getting a lot of questions on this and I would like to be able to provide a timeline when asked.

Heather Ceron
Air Permitting Section Chief
Region 4 US EPA
(404)562-9185

Ceron, Heather

From: Johnson, Terry
Sent: Monday, March 14, 2016 2:32 PM
To: Ashley Featherstone; Ceron, Heather
Cc: Betsy Brown; James C. Raiford; david.brigman@buncombecounty.org
Subject: RE: Duke Energy - Asheville

Ashley,

Thanks for the update!

-Terry

Terry Johnson
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404-562-8950
Johnson.Terry@epa.gov

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Monday, March 14, 2016 2:31 PM
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Heather Ceron
Air Permitting Section Chief
Region 4 US EPA
(404)562-9185

Ceron, Heather

From: Ceron, Heather
Sent: Monday, March 07, 2016 10:28 AM
To: Bridget Lee
Cc: Powell, Keri
Subject: RE: Sierra Club request for final Title V permit for Asheville coal plant

Call in number for today's call
404-562-9836
Code 629836

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Friday, March 04, 2016 12:02 PM
To: Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Re: Sierra Club request for final Title V permit for Asheville coal plant

Shall I reserve a conference line, or would you prefer to use yours?

Bridget

On Fri, Mar 4, 2016 at 7:21 AM, Ceron, Heather <Ceron.Heather@epa.gov> wrote:

That would be fine. I will have Keri Powell and Terry Johnson on as well.

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Thursday, March 03, 2016 6:38 PM
To: Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Re: Sierra Club request for final Title V permit for Asheville coal plant

Thank works great, Heather. Julie Mayfield with MountainTrue would like to join as well, if that's alright with you.

Bridget

On Mar 3, 2016, at 3:12 PM, Ceron, Heather <Ceron.Heather@epa.gov> wrote:

Bridget,

I have checked calendars here. Would Monday at 2:00 work for you?

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Wednesday, March 02, 2016 5:10 PM
To: Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Re: Sierra Club request for final Title V permit for Asheville coal plant

Thanks and feel better!

On Wed, Mar 2, 2016 at 5:09 PM, Ceron, Heather <Ceron.Heather@epa.gov> wrote:

Bridget,

I am out sick today. Let me check my schedule when I get in tomorrow

Sent from my iPhone

On Mar 2, 2016, at 3:55 PM, Bridget Lee <bridget.lee@sierraclub.org> wrote:

Hi Heather,

Might you have a few minutes this week or next to discuss the concerns we raised in our letter to WNCRAQA?

Many thanks,

Bridget

--

Bridget Lee

Staff Attorney

Sierra Club

50 F Street, NW, 8th Floor

Washington, DC 20001

202-675-6275

202-547-6009 (fax)

bridget.lee@sierraclub.org

---------- Forwarded message ----------
From: **Bridget Lee** <bridget.lee@sierraclub.org>
Date: Tue, Feb 9, 2016 at 5:30 PM
Subject: Sierra Club request for final Title V permit for Asheville coal plant
To: mcteertoney.heather@epa.gov, banister.beverly@epa.gov, "Ceron, Heather" <ceron.heather@epa.gov>

Good afternoon,

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While we understand the desire to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. As you know, WNCRAQA has yet to send a proposed permit to EPA.

I'm happy to discuss further whenever might be convenient.

Many thanks,

Bridget

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Bridget Lee

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bridget.lee@sierraclub.org

<2016.02.09_ltr to WNCRAQA re Asheville SO2.pdf>

--

Bridget Lee

Staff Attorney

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Ceron, Heather

From: Ceron, Heather
Sent: Friday, March 04, 2016 1:50 PM
To: Bridget Lee
Subject: RE: Sierra Club request for final Title V permit for Asheville coal plant

Either way. I can send ours on Monday once I see which one is available.

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Friday, March 04, 2016 12:02 PM
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Subject: Re: Sierra Club request for final Title V permit for Asheville coal plant

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Subject: Re: Sierra Club request for final Title V permit for Asheville coal plant

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Bridget

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Bridget Lee

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From: **Bridget Lee** <bridget.lee@sierraclub.org>
Date: Tue, Feb 9, 2016 at 5:30 PM
Subject: Sierra Club request for final Title V permit for Asheville coal plant
To: mcteertoney.heather@epa.gov, banister.beverly@epa.gov, "Ceron, Heather" <ceron.heather@epa.gov>

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Bridget Lee

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<2016.02.09_ltr to WNCRAQA re Asheville SO2.pdf>

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Bridget Lee

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Sierra Club
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Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

Subject:	Discussion with Bridget Lee, Sierra Club
Location:	Heather's office
Start:	Mon 3/7/2016 2:00 PM
End:	Mon 3/7/2016 3:00 PM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Ceron, Heather
Required Attendees:	Powell, Keri; Johnson, Terry

Bridget Lee with Sierra Club would like to discuss Sierra Club's comments on the Duke Energy – Asheville permit. The time may change if Bridget is not available.

Ceron, Heather

From: Ceron, Heather
Sent: Thursday, March 03, 2016 3:12 PM
To: Bridget Lee
Subject: RE: Sierra Club request for final Title V permit for Asheville coal plant

Bridget,

I have checked calendars here. Would Monday at 2:00 work for you?

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Wednesday, March 02, 2016 5:10 PM
To: Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Re: Sierra Club request for final Title V permit for Asheville coal plant

Thanks and feel better!

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Bridget,
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<2016.02.09_ltr to WNCRAQA re Asheville SO2.pdf>

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Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Ceron, Heather
Sent: Wednesday, March 02, 2016 4:38 PM
To: Powell, Keri
Subject: Re: Sierra Club request for final Title V permit for Asheville coal plant

Thanks, I'll find a time on both our calendars

Sent from my iPhone

On Mar 2, 2016, at 4:25 PM, Powell, Keri <Powell.Keri@epa.gov> wrote:

> I'm happy to join the call with you. It doesn't look like she's talking about a pending petition so there's no reason not to hear her out.
>
> **From:** Ceron, Heather
> **Sent:** Wednesday, March 02, 2016 4:24 PM
> **To:** Powell, Keri <Powell.Keri@epa.gov>
> **Subject:** Fwd: Sierra Club request for final Title V permit for Asheville coal plant
>
> What do you think about this? I usually don't talk to lawyers unless ORC is on the call too:)
>
> Sent from my iPhone
>
> Begin forwarded message:
>
> > **From:** Bridget Lee <bridget.lee@sierraclub.org>
> > **Date:** March 2, 2016 at 3:55:30 PM EST
> > **To:** "Ceron, Heather" <Ceron.Heather@epa.gov>
> > **Subject: Fwd: Sierra Club request for final Title V permit for Asheville coal plant**
> >
> > Hi Heather,
> >
> > Might you have a few minutes this week or next to discuss the concerns we raised in our letter to WNCRAQA?
> >
> > Many thanks,
> >
> > Bridget
> >
> > --
> > Bridget Lee
> > Staff Attorney
> > Sierra Club
> > 50 F Street, NW, 8th Floor
> > Washington, DC 20001
> > 202-675-6275

202-547-6009 (fax)
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202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Davis, Scott
Sent: Friday, February 12, 2016 9:39 AM
To: Shepherd, Lorinda
Cc: Ceron, Heather; Powell, Keri; Purvis, James; Johnson, Terry
Subject: Re: Sierra Club request for final Title V permit for Asheville coal plant

Thank you for this update Lori, Terry and James.
Scott

Sent from my iPhone

On Feb 12, 2016, at 8:19 AM, Shepherd, Lorinda <Shepherd.Lorinda@epa.gov> wrote:

Heather and Scott,

Ashley's email below sums up our discussion yesterday and brings us up to date on WNC's progress with the Duke Progress Energy title V permit renewal. James reviewed the original draft permit last year. I spoke with him yesterday about looking at the new permit once it is proposed, since he should be able to go through it faster than someone starting on it brand new.

(b) (5)
[redacted]

James, Terry and I will stay in contact with Ashley and provide any assistance we can. She may also ask her modeler to contact one of ours here after NC DEQ looks at the revised modeling if she feels that it would be helpful. She indicated in our call that her priority is to get the science and the numbers as accurate as possible in the permit.

I am working from home today if anyone would like to discuss it further. I am also in all next week.

Lori Shepherd
Environmental Scientist
Air Permitting Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Thursday, February 11, 2016 5:04 PM
To: Shepherd, Lorinda <Shepherd.Lorinda@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>; Purvis, James <Purvis.James@epa.gov>
Cc: James C. Raiford <James.Raiford@buncombecounty.org>; david.brigman@buncombecounty.org; Betsy Brown <betsy.brown@buncombecounty.org>
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

Lori, Terry, and James,

I am writing to provide a brief update on the Duke Energy Progress (DEP) permit renewal for the Asheville Steam Plant, per my conversation with Lori earlier today. As you know, we submitted a draft permit for renewal to Region 4 on March 26, 2015. The public notice was issued on the same day. A public hearing was held on April 29th. The public comment period ran through May 7, 2015. We received 690 comments. The permit was taken out of concurrent review. In November of 2015, we completed the review of the comments and discovered that more information was needed concerning the SO2 limit in the current and proposed permit.

Commenters at the hearing (oral comments) had pointed out that all other coal fired power plants in NC had more stringent SO2 limits than Asheville (statewide limit for sources not subject to an NSPS or other standard is 2.3 lbs SO2/MMBtu heat input, that is the limit in the current and proposed permit). Upon further review, it was determined that the commenters were correct. Apparently, when the stacks were modified for the installation of scrubbers required by the NC Clean Smokestacks Act (NC CSA), DAQ required the coal fired power plants to model for compliance with the SO2 NAAQS that was in place at the time (this was prior to 2010). The reason that modeling was requested appears to be that modeling had previously been done by all coal fired power plants in NC (including Asheville) back in the 1980s for NAAQS compliance when NC raised the SO2 limit to 2.3 lbs/MMBtu, this modeling was required by EPA for SIP approval. Modeling was required by NC for the NC CSA permit modifications since stack parameters were changing for the installation of the scrubbers. The stacks were lowered at that time. The Asheville steam plant modeled for compliance with the SO2 standard back in the 1980s, when the other plants modeled. However, WNCRAQA did not require Progress Energy to remodel for the SO2 standard in 2003 when the permit was modified for installation of the scrubbers. We reviewed the permit modification file for 2003 and found that Progress Energy referenced a screening level dispersion modeling analysis that was conducted to ensure that air quality conditions would be preserved with the new stack height. But, no actual modeling analysis was submitted. Our modification was the first one in NC for NC CSA (2003), there was no reference to the 1980s modeling in the permit modification file, and this was prior to NC requiring modeling of the other plants. When we discovered that all of the other plants had to take more stringent limits when they remodeled in the 2000s, we became concerned that modeling for Asheville would show a lower limit was needed and as such, requested that the facility model for compliance with the SO2 NAAQS that was in place back in 2003. The request to the facility for more information was made on November 30, 2015. A modeling protocol was submitted by DEP on January 14, 2016. The protocol was approved on January 29, 2016. We expect to receive the modeling from DEP next week. We are planning to review it and submit the draft permit, public comments, and our responses to comments to EPA as soon as possible.

The expiration date on the current DEP permit is May 31, 2015. Since the facility submitted a timely and complete application prior to the due date of August 31, 2014 (application was received on August 22, 2014), the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied (per Chapter 17 .0513(c) of our code).

Please let us know if you need any additional information from us at this time. We appreciate your assistance with this permit.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
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<image007.jpg>

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 09, 2016 5:30 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Subject: Sierra Club request for final Title V permit for Asheville coal plant

Good afternoon Ashley,

I received your message regarding the additional analyses WNCRAQA has requested from Duke Energy. While we appreciate the effort to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. We believe the agency has all the information it needs to set permit limits that protect public health, and we urge you to finalize the permit for this facility without further delay. To that end, please find attached Sierra Club's formal request that WNCRAQA issue a final Title V permit for the Asheville coal plant.

Many thanks,

Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Ceron, Heather
Sent: Friday, February 12, 2016 9:13 AM
To: Banister, Beverly; Gettle, Jeaneanne
Cc: Davis, Scott
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

Beverly,

Please see Lori's email below. We have been asking WNC regularly about this one. They have been trying to address all the comments they received and it has taken longer than expected. Let me know if you need more info.

From: Shepherd, Lorinda
Sent: Friday, February 12, 2016 8:19 AM
To: Ceron, Heather <Ceron.Heather@epa.gov>; Davis, Scott <Davis.ScottR@epa.gov>
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

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Cc: James C. Raiford <James.Raiford@buncombecounty.org>; david.brigman@buncombecounty.org; Betsy Brown

<betsy.brown@buncombecounty.org>
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

Lori, Terry, and James,

I am writing to provide a brief update on the Duke Energy Progress (DEP) permit renewal for the Asheville Steam Plant, per my conversation with Lori earlier today. As you know, we submitted a draft permit for renewal to Region 4 on March 26, 2015. The public notice was issued on the same day. A public hearing was held on April 29th. The public comment period ran through May 7, 2015. We received 690 comments. The permit was taken out of concurrent review. In November of 2015, we completed the review of the comments and discovered that more information was needed concerning the SO2 limit in the current and proposed permit.

Commenters at the hearing (oral comments) had pointed out that all other coal fired power plants in NC had more stringent SO2 limits than Asheville (statewide limit for sources not subject to an NSPS or other standard is 2.3 lbs SO2/MMBtu heat input, that is the limit in the current and proposed permit). Upon further review, it was determined that the commenters were correct. Apparently, when the stacks were modified for the installation of scrubbers required by the NC Clean Smokestacks Act (NC CSA), DAQ required the coal fired power plants to model for compliance with the SO2 NAAQS that was in place at the time (this was prior to 2010). The reason that modeling was requested appears to be that modeling had previously been done by all coal fired power plants in NC (including Asheville) back in the 1980s for NAAQS compliance when NC raised the SO2 limit to 2.3 lbs/MMBtu, this modeling was required by EPA for SIP approval. Modeling was required by NC for the NC CSA permit modifications since stack parameters were changing for the installation of the scrubbers. The stacks were lowered at that time. The Asheville steam plant modeled for compliance with the SO2 standard back in the 1980s, when the other plants modeled. However, WNCRAQA did not require Progress Energy to remodel for the SO2 standard in 2003 when the permit was modified for installation of the scrubbers. We reviewed the permit modification file for 2003 and found that Progress Energy referenced a screening level dispersion modeling analysis that was conducted to ensure that air quality conditions would be preserved with the new stack height. But, no actual modeling analysis was submitted. Our modification was the first one in NC for NC CSA (2003), there was no reference to the 1980s modeling in the permit modification file, and this was prior to NC requiring modeling of the other plants. When we discovered that all of the other plants had to take more stringent limits when they remodeled in the 2000s, we became concerned that modeling for Asheville would show a lower limit was needed and as such, requested that the facility model for compliance with the SO2 NAAQS that was in place back in 2003. The request to the facility for more information was made on November 30, 2015. A modeling protocol was submitted by DEP on January 14, 2016. The protocol was approved on January 29, 2016. We expect to receive the modeling from DEP next week. We are planning to review it and submit the draft permit, public comments, and our responses to comments to EPA as soon as possible.

The expiration date on the current DEP permit is May 31, 2015. Since the facility submitted a timely and complete application prior to the due date of August 31, 2014 (application was received on August 22, 2014), the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied (per Chapter 17 .0513(c) of our code).

Please let us know if you need any additional information from us at this time. We appreciate your assistance with this permit.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager

WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 09, 2016 5:30 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Subject: Sierra Club request for final Title V permit for Asheville coal plant

Good afternoon Ashley,

I received your message regarding the additional analyses WNCRAQA has requested from Duke Energy. While we appreciate the effort to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. We believe the agency has all the information it needs to set permit limits that protect public health, and we urge you to finalize the permit for this facility without further delay. To that end, please find attached Sierra Club's formal request that WNCRAQA issue a final Title V permit for the Asheville coal plant.

Many thanks,

Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Ceron, Heather
Sent: Friday, February 12, 2016 9:08 AM
To: Shepherd, Lorinda; Davis, Scott
Subject: RE: Sierra Club request for final Title V permit for Asheville coal plant

Thanks

From: Shepherd, Lorinda
Sent: Friday, February 12, 2016 8:19 AM
To: Ceron, Heather <Ceron.Heather@epa.gov>; Davis, Scott <Davis.ScottR@epa.gov>
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

Heather and Scott,

Ashley's email below sums up our discussion yesterday and brings us up to date on WNC's progress with the Duke Progress Energy title V permit renewal. James reviewed the original draft permit last year. I spoke with him yesterday about looking at the new permit once it is proposed, since he should be able to go through it faster than someone starting on it brand new.

(b) (5)

[redacted]

James, Terry and I will stay in contact with Ashley and provide any assistance we can. She may also ask her modeler to contact one of ours here after NC DEQ looks at the revised modeling if she feels that it would be helpful. She indicated in our call that her priority is to get the science and the numbers as accurate as possible in the permit.

I am working from home today if anyone would like to discuss it further. I am also in all next week.

Lori Shepherd
Environmental Scientist
Air Permitting Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Thursday, February 11, 2016 5:04 PM
To: Shepherd, Lorinda <Shepherd.Lorinda@epa.gov>; Johnson, Terry <Johnson.Terry@epa.gov>; Purvis, James <Purvis.James@epa.gov>
Cc: James C. Raiford <James.Raiford@buncombecounty.org>; david.brigman@buncombecounty.org; Betsy Brown <betsy.brown@buncombecounty.org>
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant

Lori, Terry, and James,

I am writing to provide a brief update on the Duke Energy Progress (DEP) permit renewal for the Asheville Steam Plant, per my conversation with Lori earlier today. As you know, we submitted a draft permit for renewal to Region 4 on March 26, 2015. The public notice was issued on the same day. A public hearing was held on April 29th. The public comment period ran through May 7, 2015. We received 690 comments. The permit was taken out of concurrent review. In November of 2015, we completed the review of the comments and discovered that more information was needed concerning the SO2 limit in the current and proposed permit.

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Please let us know if you need any additional information from us at this time. We appreciate your assistance with this permit.

Thanks,
Ashley

Please note new mailing address below.

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801
Phone: 828.250.6778

Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

All correspondence to and from this address may be subject to the N.C. Public Records Law and may be disclosed to third parties.

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 09, 2016 5:30 PM
To: Ashley Featherstone <Ashley.Featherstone@buncombecounty.org>
Subject: Sierra Club request for final Title V permit for Asheville coal plant

Good afternoon Ashley,

I received your message regarding the additional analyses WNCRAQA has requested from Duke Energy. While we appreciate the effort to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. We believe the agency has all the information it needs to set permit limits that protect public health, and we urge you to finalize the permit for this facility without further delay. To that end, please find attached Sierra Club's formal request that WNCRAQA issue a final Title V permit for the Asheville coal plant.

Many thanks,

Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Banister, Beverly
Sent: Thursday, February 11, 2016 8:39 AM
To: Davis, Scott
Cc: Gettle, Jeaneanne; Ceron, Heather
Subject: Fwd: Sierra Club request for final Title V permit for Asheville coal plant
Attachments: 2016.02.09_ltr to WNCRAQA re Asheville SO2.pdf; ATT00001.htm

Let's discuss.
Beverly

Sent from my iPhone

Begin forwarded message:

> **From:** Bridget Lee <bridget.lee@sierraclub.org>
> **Date:** February 9, 2016 at 5:30:02 PM EST
> **To:** mcteertoney.heather@epa.gov, banister.beverly@epa.gov, "Ceron, Heather" <ceron.heather@epa.gov>
> **Subject: Sierra Club request for final Title V permit for Asheville coal plant**
>
> Good afternoon,
>
> Please find attached Sierra Club's request that Western North Carolina Regional Air Quality Agency issue a final Title V permit for Duke Energy Progress' Asheville Steam Electric Plant on a timeline that comports with the requirements of the Clean Air Act and implementing regulations.
>
> While we understand the desire to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. As you know, WNCRAQA has yet to send a proposed permit to EPA.
>
> I'm happy to discuss further whenever might be convenient.
>
> Many thanks,
>
> Bridget
>
> --
> Bridget Lee
> Staff Attorney
> Sierra Club
> 50 F Street, NW, 8th Floor
> Washington, DC 20001
> 202-675-6275
> 202-547-6009 (fax)
> bridget.lee@sierraclub.org

February 9, 2016

Via e-mail to ashley.featherstone@buncombecounty.org

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
125 South Lexington Avenue, Suite 101
Asheville, NC 28801

Re: Request for Issuance of Title V Permit for Duke Energy Progress' Asheville Steam Electric Plant, Permit No. 11-628-15

Dear Ms. Featherstone:

As you know, the air quality permit for Duke Energy Progress' Asheville Steam Electric Plant expired on May 31, 2015, and the Western North Carolina Regional Air Quality Agency ("WNCRAQA") received a timely application for permit renewal from the company on August 22, 2014. Under the Clean Air Act and its implementing regulations, a permitting authority must "take final action on each permit application (including a request for permit modification or renewal) within 18 months ... after receiving a complete application." 40 C.F.R. § 70.7(a)(2); *see also* 42 U.S.C. § 7661b(c). Accordingly, WNCRAQA must take final action on Duke's application by February 22, 2016. In addition, WNCRAQA's own regulations—those designed to establish a permitting program consistent with the requirements of title V of the Clean Air Act—require that "[t]he Director shall complete the review of the record and send the proposed permit to EPA . . . within 45 days after the close of the public hearing if there is a public hearing on the draft permit." WNCRAQA Code § 17.0525(6)(B). It has been 286 days since the public hearing on this permit renewal, but WNCRAQA has yet to send a proposed permit to EPA.

The Sierra Club submitted detailed comments on the draft permit, documenting dangerous levels of sulfur dioxide pollution in a number of Asheville neighborhoods, which pollution was caused by emissions from the Asheville plant, and urged WNCRAQA to establish numerical emission limits stringent enough to ensure that the people of Asheville would no longer be exposed to unsafe amounts of sulfur dioxide. We reiterate our serious concern with the rates at which the Plant has been emitting sulfur dioxide in recent years—high enough to cause pollution concentrations that exceed public health-based standards on one out of every three to

four days. Exposure to elevated concentrations of sulfur dioxide—even for as little as five minutes—can cause serious adverse respiratory effects and has been linked to increased asthma attacks and hospital visits. Children, the elderly, and asthmatics face heightened risks from sulfur dioxide exposure.

These concerns are shared by the broader Asheville community. Nearly 250 residents attended the April 29, 2015 hearing on the permit renewal, and many called on WNCRAQA to issue a permit that would protect the health of their families and guarantee clean air. Following the hearing, Sierra Club representatives and others have repeatedly called for final action on the permit, but, more than nine months later, no final permit has been issued nor has a proposed permit even been submitted to the U.S. Environmental Protection Agency for its review.

The requirements established by Title V of the Clean Air Act and governing regulations are intended to safeguard downwind communities against the dangers caused by the emission of harmful pollutants from coal-burning power plants and other facilities, in part, by ensuring that polluters may not continue operating pursuant to outdated permits indefinitely. Allowing the Asheville plant to emit sulfur dioxide and other pollutants without an updated permit frustrates the purposes of the Clean Air Act and North Carolina's environmental laws. In order to fulfill the public policy of the State to conserve its air resources and to protect public health, WNCRAQA must issue a final permit for the Asheville plant without further delay.

Thank you for your prompt attention to this matter. Please do not hesitate to contact me if you would like to discuss.

Sincerely,

Bridget M. Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
bridget.lee@sierraclub.org

cc via e-mail:

Heather McTeer Toney
Regional Administrator
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960
mcteertoney.heather@epa.gov

Beverly Banister
Air, Pesticides, and Toxics Management Division Director
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960
banister.beverly@epa.gov

Heather Ceron
Air Permits Section Chief
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960
ceron.heather@epa.gov

Ceron, Heather

From: Ceron, Heather
Sent: Wednesday, February 10, 2016 1:27 PM
To: Davis, Scott
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant
Attachments: 2016.02.09_ltr to WNCRAQA re Asheville SO2.pdf

FYI

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 09, 2016 5:30 PM
To: McTeerToney, Heather <McTeerToney.Heather@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Sierra Club request for final Title V permit for Asheville coal plant

Good afternoon,

Please find attached Sierra Club's request that Western North Carolina Regional Air Quality Agency issue a final Title V permit for Duke Energy Progress' Asheville Steam Electric Plant on a timeline that comports with the requirements of the Clean Air Act and implementing regulations.

While we understand the desire to gather more data, we are concerned with the pace at which this permit renewal process is proceeding. As you know, WNCRAQA has yet to send a proposed permit to EPA.

I'm happy to discuss further whenever might be convenient.

Many thanks,

Bridget

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Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Ceron, Heather
Sent: Wednesday, February 10, 2016 9:18 AM
To: Johnson, Terry
Subject: FW: Sierra Club request for final Title V permit for Asheville coal plant
Attachments: 2016.02.09_ltr to WNCRAQA re Asheville SO2.pdf

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 09, 2016 5:30 PM
To: McTeerToney, Heather <McTeerToney.Heather@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Sierra Club request for final Title V permit for Asheville coal plant

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I'm happy to discuss further whenever might be convenient.

Many thanks,

Bridget

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Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Bridget Lee <bridget.lee@sierraclub.org>
Sent: Tuesday, February 09, 2016 5:30 PM
To: McTeerToney, Heather; Banister, Beverly; Ceron, Heather
Subject: Sierra Club request for final Title V permit for Asheville coal plant
Attachments: 2016.02.09_ltr to WNCRAQA re Asheville SO2.pdf

Good afternoon,

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Bridget

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Staff Attorney
Sierra Club
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Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Purvis, James
Sent: Friday, January 29, 2016 5:38 PM
To: Shepherd, Lorinda
Cc: Ceron, Heather; Johnson, Terry
Subject: FW: Public Notice Documents for Duke 7900156.14A
Attachments: rockingham_permit_T15_alt_cold_weather_NOx_BACT.pdf; rockingham_review_T15 _alt_cold_weather_NOx_BACT.pdf; rockingham_review_T15_appendix_C_and_D.pdf; notice T15 - rockingham public notice.pdf; notice letter - applicant.pdf; notice letter - county manager.pdf; notice letter - epa.pdf; notice letter - region.pdf

FYI... this may be worth looking at.

From: Hash, Kathy [mailto:kathy.hash@ncdenr.gov]
Sent: Friday, January 29, 2016 10:36 AM
To: Featherstone, Ashley <ashley.featherstone@buncombecounty.org>; affected County Buncombe <Juanita.Shanley@buncombecounty.org>; barnetwm@forsyth.cc; Jason.rayfield@mecklenburgcountync.gov; affected State Georgia <eric.cornwell@dnr.state.ga.us>; affected state South Carolina <leeka@dhec.sc.gov>; affected State Tennessee <Air.Pollution.Control@tn.gov>; affected state Virginia (amber.foster@deq.virginia.gov) <amber.foster@deq.virginia.gov>; Johnson, Terry <Johnson.Terry@epa.gov>; Shepherd, Lorinda <Shepherd.Lorinda@epa.gov>; Ceron, Heather <Ceron.Heather@epa.gov>; Purvis, James <Purvis.James@epa.gov>; interested party <Permits@dogwoodalliance.org>; interested party <kadie.mcshirley@sierraclub.org>; interested party <avram@canarycoalition.org>; interested party <'cinjaharris@comporium.net'>; interested party <'comet2000@nc.rr.com'>; interested party <'davidmickey@bellsouth.net'>; interested party <'bethhenry@carolina.rr.com'>; interested party <hope@cwfnc.org>; interested party <'bredl@skybest.com'>; interested party <rick@catawbariverkeeper.org>; interested party <mblake@selcnc.org>; interested party <therese.vick@gmail.com>; interested party <Sasmith@cleanenergy.org>; interested party (reservation) <'forrpark@nc-cherokee.com'>; Sands, Heather <heather.sands@ncdenr.gov>; Sheppard, Jenny <jenny.sheppard@ncdenr.gov>; NCDENR.DENR.DAQ.Ask_IBEAM <DENR.DAQ.Ask_IBEAM@lists.ncmail.net>; Barker, Robert <robert.barker@ncdenr.gov>; Adouli, Jalal <jalal.adouli@ncdenr.gov>; Dana.Newcomb@duke-energy.com; Erin.Wallace@duke-energy.com; larry.sparks@duke-energy.com
Cc: Martin, Ed <ed.martin@ncdenr.gov>
Subject: Public Notice Documents for Duke 7900156.14A

Hello,
Please Find attached documents pertaining to the subject application for your review and comments.
Engineer : Ed Martin
Newspaper: News & Record
Date of publication for Public Notice February 1, 2016
Public Comment period ends March 2, 2016
EPA Comment period ends March 17, 2016

Please let me know if you have any questions regarding this matter.

Webmaster, Please place appropriate documents on DAQ website.

Thanks,
Kathy

Kathy Hash
Information Processing Assistant
North Carolina Department of Environmental Quality
Division of Air Quality,Permitting Section
Phone/Fax: 919-707-8734
kathy.hash@ncdenr.gov
217 West Jones Street 4430-I
Raleigh, NC 27603
1641 Mail Service Center
Raleigh, NC 27699-1641
www.ncair.org

Nothing Compares

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

Ceron, Heather

From: Purvis, James
Sent: Tuesday, January 05, 2016 2:40 PM
To: Shell, Karrie-Jo
Cc: Ceron, Heather; Johnson, Terry
Subject: FW: Scrubber Type Question for Duke facilities in NC
Attachments: list.xls

Karrie-Jo,

Here is the information we were able to put together... Please see Russell Braswell's email below regarding what was found asking around at the NC. Hope this helps!

Regards,

James Purvis
US EPA Region IV
Air, Pesticides & Toxics Management Division - Air Permitting Section
404 562 9139

From: Braswell, Russell [mailto:russell.braswell@ncdenr.gov]
Sent: Tuesday, January 05, 2016 2:32 PM
To: Purvis, James <Purvis.James@epa.gov>
Cc: Ceron, Heather <Ceron.Heather@epa.gov>; Thaker, Rahul <rahul.thaker@ncdenr.gov>; Martin, Ed <ed.martin@ncdenr.gov>; Willets, William <william.willets@ncdenr.gov>
Subject: RE: Scrubber Type Question for Duke facilities in NC

James,

I have attached a list of all current Title V Duke facilities. In this list are web links that will take you to the current Title V permit.

After talking around the office, I do not think there are any dry scrubbers at these facilities.

Currently, there is no bromine-containing materials on any control devices at any Duke facilities. We can only recall one facility – Marshall – that once used bromine. Marshall no longer operates this process.

Hopefully the attached list and Title V permits can answer any more specific questions you have. If you need anything else, let me know.

-Russell

Russell Braswell
Environmental Engineer
Division of Air Quality, Permitting Section
Department of Environmental Quality

919-707-8731 office

russell.braswell@ncdenr.gov email

Raleigh Central Office
217 West Jones Street
1641 Mail Service Center
Raleigh NC, 27699-1641

Nothing Compares

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Purvis, James [mailto:Purvis.James@epa.gov]
Sent: Tuesday, January 05, 2016 10:10 AM
To: Braswell, Russell <russell.braswell@ncdenr.gov>
Cc: Ceron, Heather <Ceron.Heather@epa.gov>
Subject: Scrubber Type Question for Duke facilities in NC

Russell,

As we discussed on the phone last week, below is a copied request from our folks here in the Region 4 Water Division. I appreciate you helping get the hunt started. Any information that NC DAQ may have would be helpful. Thanks Again!

Regards,

James Purvis
US EPA Region IV
Air, Pesticides & Toxics Management Division - Air Permitting Section
404 562 9139

Request:

Information for all the Duke coal-fired plants, or plants that previously were coal-fired, in NC:

Allen
Marshall
Sutton
Asheville
Dan River
Belews Creek
Buck
Cape Fear
Weatherspoon
Mayo
Cliffside
Roxboro
H.F. Lee

1. Is there any air-related information (e.g., air permit application or database) which contains information that will help identify those Duke coal-fired plants in NC that use, or used to use, bromine in any air pollution abatement equipment (e.g., FGD scrubbers)?

2. Can you tell me if any of the Duke plants in NC plan to switch from wet scrubbers to dry scrubbers?

Ceron, Heather

From: Shell, Karrie-Jo
Sent: Tuesday, January 05, 2016 8:40 AM
To: Purvis, James
Cc: Ceron, Heather; Staples, Bridget
Subject: RE: Request for any CAA permit information on the use of brominated powdered activate carbon for mercury controls at Duke coal-fired plants in NC

I would like information for all the Duke coal-fired plants, or plants that previously were coal-fired, in NC.

Allen
Marshall
Sutton
Asheville
Dan River
Belews Creek
Buck
Cape Fear
Weatherspoon
Mayo
Cliffside
Roxboro
H.F. Lee

Thanks,

Karrie-Jo Robinson-Shell, P.E.
Environmental Engineer
US EPA Region 4
Water Protection Division
61 Forsyth Street
Atlanta, GA 30303
(404) 562-9308

From: Purvis, James
Sent: Monday, December 21, 2015 11:00 AM
To: Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>
Cc: Ceron, Heather <Ceron.Heather@epa.gov>
Subject: RE: Request for any CAA permit information on the use of brominated powdered activate carbon for mercury controls at Duke coal-fired plants in NC

Which facilities are you looking for? I'd probably have to approach NC to get the information but don't mind doing that. Just let me know!

Regards,

James Purvis
US EPA Region IV

Air, Pesticides & Toxics Management Division - Air Permitting Section
404 562 9139

From: Shell, Karrie-Jo
Sent: Friday, December 18, 2015 9:55 AM
To: Purvis, James <Purvis.James@epa.gov>; Lloyd, David <Lloyd.David@epa.gov>; Dressler, Jason <Dressler.Jason@epa.gov>
Cc: Staples, Bridget <Staples.Bridget@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>
Subject: Request for any CAA permit information on the use of brominated powdered activate carbon for mercury controls at Duke coal-fired plants in NC

David, Jason, and James:

1. Is there any air-related information (e.g., air permit application or database) which contains information that will help identify those Duke coal-fired plants in NC that use, or used to use, bromine in any air pollution abatement equipment (e.g., FGD scrubbers)?
2. Can you tell me if any of the Duke plants in NC plan to switch from wet scrubbers to dry scrubbers?

The Water Division has become aware of a possible problem with the use of brominated PAC for mercury control at coal-fired power plants because it (bromide) is released into the water effluent stream and *passes through* typical wastewater treatment systems. When this water effluent is discharged upstream of a drinking water plant intake, it can generate trihalomethanes (THMs) during the drinking water disinfection, and THMs can be harmful to humans.

We believe that bromides from some Duke facilities that use brominated may be impacting 2-3 drinking water systems in NC.

Thanks for your help. Feel free to contact me if you have additional questions.

Karrie-Jo Robinson-Shell, P.E.
Environmental Engineer
US EPA Region 4
Water Protection Division
61 Forsyth Street
Atlanta, GA 30303
(404) 562-9308

Ceron, Heather

From: Johnson, Terry
Sent: Monday, December 14, 2015 3:11 PM
To: Ceron, Heather
Cc: Powell, Keri
Subject: NC - Duke Asheville Plant T5 Renewal

Hi Heather –

Just received a call from Ashley Featherstone to give us an update on the status of this T5 renewal. Let's sit down together after the holidays to review its status.

-Terry

Ceron, Heather

From: Bridget Lee <bridget.lee@sierraclub.org>
Sent: Thursday, November 05, 2015 1:20 PM
To: Ceron, Heather
Cc: Kelly Martin; Julie Mayfield; Purvis, James; Johnson, Terry
Subject: Re: Duke SO2 check in

The nearest monitors are ~65 miles away, one to the west in Swain County and the other to the east in Caldwell County (see NC DENR DAQ website).

On Wed, Nov 4, 2015 at 2:13 PM, Ceron, Heather <Ceron.Heather@epa.gov> wrote:
We can use my call in number. 866-299-3188 passcode 4045629185
Talk to you at 1:00 tomorrow.

Sent from my iPhone

On Nov 4, 2015, at 2:04 PM, Kelly Martin <kelly.martin@sierraclub.org> wrote:

> I hope you are able to get back in your office soon!
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Staff Attorney

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Subject: RE: Duke SO2 check in

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Julie

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Terry Johnson and James Purvis are the two staff folks I have working on this.

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standard in a SIP specifically prohibiting the exceedance of a NAAQS was an "applicable standard" necessitating permit conditions adequate to prevent such exceedances. For your convenience, I've attached that Order, as well as a letter sent by the Sierra Club to Beverly relating to the applicability of the Order to Title V permitting in North Carolina.

Given the parallel provision in North Carolina's SIP prohibiting the operation of an air pollution source in a manner that causes the exceedance of the NAAQS, *see* 15A N.C.A.C. § 2D.0501(c), MountainTrue and the Sierra Club would like to discuss with you the implications of the Administrator's decision on future permitting decisions in North Carolina. Please let us know if you and/or other members of your staff might be able to meet or be on a call in the coming weeks.

Thanks

Julie

Julie Mayfield, Co-Director

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<image001.png>

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Ceron, Heather

Subject:	Meeting with Sierra Club: Duke Asheville Plant
Location:	12B
Start:	Thu 11/5/2015 1:00 PM
End:	Thu 11/5/2015 2:00 PM
Recurrence:	(none)
Meeting Status:	Accepted
Organizer:	Johnson, Terry
Required Attendees:	Ceron, Heather; Bradley, Twunjala
Optional Attendees:	Powell, Keri

UPDATE: Call-in number and code:
(b) (5) [redacted]

Keri – in case you're available, we're meeting with Sierra Club on Thursday about the Duke Energy plant in Asheville. (just a listening session – we don't have the proposed permit before us yet).

-Terry

Ceron, Heather

From: Ceron, Heather
Sent: Wednesday, November 04, 2015 2:15 PM
To: Kemker, Carol; Gettle, Jeaneanne
Cc: Davis, Scott
Subject: Meeting on duke Asheville

All,
We have changed to a conference call instead of face to face tomorrow. I will not need to get an alternative room.

Sent from my iPhone

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All,

Just wanted to confirm our meeting this week. Are we set for November 5 from 1-2 at the Sam Nunn Building? Also do we need a call in number? I have one we can use if needed.

Thanks!

Heather

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
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To: Julie Mayfield <julie@mountaintrue.org>
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To: Bridget Lee; Julie Mayfield
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Julie Mayfield, Co-Director

MountainTrue

29 N. Market Street, Suite 610

Asheville, NC 28801

828-258-8737, X202

www.mountaintrue.org

mountaintrue.

MountainTrue's board, volunteers and professional staff focus on a core set of issues across 23 counties of Western North Carolina: sensible land use, restoring public forests protecting water quality and promoting clean energy – all of which have a high impact on the environmental health and long-term prosperity of our region. MountainTrue is the home of the French Broad Riverkeeper, the primary protector and defender of the French Broad River watershed.

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Ceron, Heather
Sent: Tuesday, October 06, 2015 1:26 PM
To: Mitchell, Ken
Subject: RE: Terry Johnson here

Got it ☺ and no worries☺

From: Mitchell, Ken
Sent: Tuesday, October 06, 2015 10:17 AM
To: Ceron, Heather
Subject: Terry Johnson here

Hi Heather! This is Terry, using Ken's computer!

Accomplishments:
1. Assisting with Permitting Workshop
2. Development of Sharepoint sites for the Air Programs Branch
3. Review of several initial Title V permits and Title V renewals
4. Review of 2 PSD permit applications
5. Assisted Enforcement with negotiations with Exxon/Mobil and Broward County regarding establishment of limits for 2 vapor recovery units
6. Assisted Ken Mitchell in implementation/roll-out of Clean Power Plan
7. Acted as point of contact for Georgia and Alabama for Clean Power Plan implementation and roll-out
8. Assisted in preparations for International Youth Environmental Symposium hosted by the region and judged posters
9. Acted as point of contact for North Carolina DEQ and local agencies; logged permitting actions, reviewed 502(b)(10) notices, etc.
10. Coordinated the Air Permitting 101 training presentation
11. Served on SO2 designations team
12. Duke Energy Asheville and Richmond plants -- responded to FOIA request, petitions, briefed Beverly
13. Assisted in review of Georgia EPD permitting program

For focus of APS and the Branch in coming year: CPP implementation, SO2 and ozone designations, T5 and PSD permit reviews, maybe thinking about how we can enhance communications/cooperation with our state partners -- maybe through things like the Sharepoint site, etc.

This is all I can think of off the top of my head during the session break -- I'll be back in the office Thursday afternoon!

-Terry

Ceron, Heather

From: Banister, Beverly
Sent: Monday, September 21, 2015 5:32 PM
To: Ceron, Heather
Cc: Gettle, Jeaneanne; Davis, Scott
Subject: RE: Duke SO2 check in

Do we generally meet with folks prior to getting a permit in house? If so at this time I am thinking that I would not be involved in the meeting. We can talk further.
Beverly

From: Ceron, Heather
Sent: Monday, September 21, 2015 5:04 PM
To: Banister, Beverly
Cc: Gettle, Jeaneanne; Davis, Scott
Subject: FW: Duke SO2 check in

Beverly,

Julie has contacted me about the Duke Energy – Asheville TV renewal. We do not have the permit in house yet and do not expect it until late October. MoutainTrue and Sierra Club are requesting to meet with us to go over their issues. Please let me know what you think and if you want to be involved in the meeting. We will be in listening mode for the meeting if one is set.

Thanks! And let me know if you need more info.

From: Julie Mayfield [mailto:julie@mountaintrue.org]
Sent: Monday, September 21, 2015 4:53 PM
To: Ceron, Heather
Cc: Bridget Lee; Kelly Martin
Subject: Duke SO2 check in

Hello Heather – I hope you are doing well. I am checking in on the Title V permit for the Duke plant up here – last we heard, WNCRAQA had not yet completed their review of comments, but I didn't know if you had heard any differently. I also wanted to flag for you a recent decision that we think might influence this permitting decision.

As you may know, Administrator McCarthy recently concluded that a narrative standard in a SIP specifically prohibiting the exceedance of a NAAQS was an "applicable standard" necessitating permit conditions adequate to prevent such exceedances. For your convenience, I've attached that Order, as well as a letter sent by the Sierra Club to Beverly relating to the applicability of the Order to Title V permitting in North Carolina.

Given the parallel provision in North Carolina's SIP prohibiting the operation of an air pollution source in a manner that causes the exceedance of the NAAQS, *see* 15A N.C.A.C. § 2D.0501(c), MountainTrue and the Sierra Club would like to discuss with you the implications of the Administrator's decision on future permitting decisions in North Carolina. Please let us know if you and/or other members of your staff might be able to meet or be on a call in the coming weeks.

Thanks
Julie

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Ceron, Heather

From: Davis, Scott
Sent: Monday, September 21, 2015 5:27 PM
To: Powell, Keri; Rubini, Suzanne
Cc: Ceron, Heather; Benjamin, Lynorae; Johnson, Terry
Subject: Fw: Duke SO2 check in
Attachments: ENV_DEFENSE-#732686-v1-Schiller_Station--Final--EPA_Order_Responding_to_....pdf; 2015.08.07_ltr to EPA re Schiller Order.pdf

FYI for Duke Energy-Asheville

From: Ceron, Heather
Sent: Monday, September 21, 2015 5:04 PM
To: Banister, Beverly
Cc: Gettle, Jeaneanne; Davis, Scott
Subject: FW: Duke SO2 check in

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Julie has contacted me about the Duke Energy – Asheville TV renewal. We do not have the permit in house yet and do not expect it until late October. MoutainTrue and Sierra Club are requesting to meet with us to go over their issues. Please let me know what you think and if you want to be involved in the meeting. We will be in listening mode for the meeting if one is set.

Thanks! And let me know if you need more info.

From: Julie Mayfield [mailto:julie@mountaintrue.org]
Sent: Monday, September 21, 2015 4:53 PM
To: Ceron, Heather
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Nonprofit focuses on the preservation of public land and protection of waters. Features programs, board of directors, staff, news, events, contact details.

Read more...

mountaintrue.

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Ceron, Heather

From: Purvis, James
Sent: Friday, August 07, 2015 2:25 PM
To: Ceron, Heather
Cc: Johnson, Terry
Subject: FW: Review of Title V Permit Renewal for Duke Energy's Asheville Plant
Attachments: 2015.08.07_ltr to EPA re Schiller Order.pdf; 2015.04.30_Sierra Club comments on Asheville Title V Renewal.pdf; ENV_DEFENSE-#732686-v1-Schiller_Station--Final--EPA_Order_Responding_to_....pdf

Heather,

I just called WNC and confirmed this permit is still in the pre-proposed stage and they are working on the response to comments we had discussed prior. Just wanted to confirm the status incase Beverly might want to know. WNC has said they will likely be in touch before proposing the permit to us.

Regards,

From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Friday, August 07, 2015 2:07 PM
To: Banister, Beverly
Cc: Purvis, James
Subject: Review of Title V Permit Renewal for Duke Energy's Asheville Plant

Dear Ms. Banister,

Please see the attached letter and accompanying documents regarding SO2 pollution from the Asheville Steam Electric Plant in Buncombe County, NC.

Best regards,
Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Purvis, James
Sent: Tuesday, April 28, 2015 3:08 PM
To: Ceron, Heather; Shepherd, Lorinda
Subject: FW: WNCRAQA-Duke Permit Renewal

Fyi...

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Tuesday, April 28, 2015 11:06 AM
To: Purvis, James
Subject: FW: WNCRAQA-Duke Permit Renewal

James,

Below are a couple of emails I have sent to NC DAQ's Public Information Officer, Tom Mather. They include links to different articles related to our permit renewal,

Thanks,
Ashley

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

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From: Ashley Featherstone
Sent: Tuesday, April 28, 2015 11:05 AM
To: Mather, Tom (tom.mather@ncdenr.gov)
Subject: FW: WNCRAQA-Duke Permit Renewal

Hey again Tom,

I thought I would send you the most recent articles, FYI.

Thanks,

Ashley

http://www.citizen-times.com/story/news/local/2015/04/27/duke-plant-focus-air-quality-public-meeting/26444115/

http://mountainx.com/news/wnc-and-nation-get-a-30-million-push-to-move-beyond-coal/

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From: Ashley Featherstone
Sent: Friday, April 24, 2015 4:14 PM
To: Mather, Tom (tom.mather@ncdenr.gov)
Subject: WNCRAQA-Duke Permit Renewal

Tom,

Thanks for taking the time to talk to me about the upcoming public hearing for the permit renewal for the Duke Energy Progress Permit (April 29th). The public comment period is underway and runs through April 30th. I thought I would send you some of the information that is circulating. A local environmental group called Mountain True has a website that is dedicated to this issue. http://action.mountaintrue.org/page/speakout/stop-unsafe-air-pollution-from-asheville-coal-plant The Mountain Express Blogwire includes a story with an electronic petition that Mountain True is circulating. http://mountainx.com/blogwire/mountain-true-seeks-signatures-on-petition-for-tighter-standards-for-ashevilles-coal-burning-plant/.

We have a public notice and the press release for the hearing, both are on our website in the news section (on the left side of the front page). http://www.buncombecounty.org/Governing/Depts/wncair/default.aspx Below I have copied in a couple of paragraphs from the press release, which address the sulfur dioxide (SO2) standard that Sierra Club is discussing in the comments that they have submitted to us (which is the focus of the Mountain True initiative).

Here is a story that ran in the local paper back in February when Sierra Club released the results of the studies they commissioned. http://www.citizen-times.com/story/news/local/2015/02/19/sierra-club-toxins-lake-julian-plant-high/23699983/

Thanks,

Ashley

From the press release on our website for the hearing:

"By law, the WNCRAQA must review permits for compliance with existing air quality regulations. On June 22, 2010, the EPA revised the Primary National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO2). Air quality designations were published by EPA in 2013 for areas where SO2 monitoring sites were established and data was sufficient to determine compliance. EPA has not yet issued designations for areas where established SO2 monitoring sites are not present. The EPA proposed the Data Requirements Rule for the 1-Hour Sulfur Dioxide (SO2) Primary National Ambient Air Quality Standard (NAAQS) on May 13, 2014. This proposed rule details the requirements for a state to provide data to the EPA so the EPA in turn can make final SO2 NAAQS attainment designations."

"The proposed rule includes an anticipated timeline for the attainment designation process. The air agency will be required to submit a list of applicable sources located in its jurisdiction to the EPA by January 15, 2016. For each area containing an applicable source, the air agency shall state whether it will characterize air quality through ambient air quality monitoring or through air quality modeling techniques. For areas that are characterized using a modeling analysis, it is expected that modeling will be completed and submitted to the EPA by January 2017, and that final designations for these areas will be completed by December of 2017. For areas that elect to characterize air quality through ambient monitoring, the monitors are to be operational by January 2017. Three years of data will be collected, with the EPA issuing final designations by December of 2020. State attainment plans will be due in August of 2022. A final rule is expected later this year. The Agency, along with the North Carolina Division of Air Quality, will establish any enforceable emission limits as necessary per the process outlined above. No modeling analysis is required for the 1-hour SO2 standard at this time."

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
(828) 250-6778
www.wncairquality.org

Ceron, Heather

From: Julie Mayfield <julie@mountaintrue.org>
Sent: Thursday, April 16, 2015 10:01 PM
To: Ceron, Heather
Subject: reports
Attachments: DHG Asheville Modeling Expert Report - Feb 2015.pdf; Sahu Asheville Scrubber Operations Report.pdf; SO2 Asheville Plant Fact Sheet.pdf

Hi again Heather – here are the reports we discussed today. The first is the modeling of the SO2 emissions. The second is the report identifying the reasons for the increased SO2 emissions – higher sulfur coal and less efficient use of the scrubbers. Here is a link to the campaign website that includes a map of the SO2 dispersion: http://content.sierraclub.org/coal/asheville

I have also attached a fact sheet that we use to make this information accessible to the public. Again, if your team sees anything wrong with the modeling or the way we are interpreting it, I would appreciate knowing that. It's important that we are using good information and bringing that to the public accurately.

Finally, here is a link to the notice of the draft permit, that includes a link to the draft permit if your folks want to get a sneak peak.

http://www.buncombecounty.org/Governing/depts/wncAir/News_Detail.aspx?newsID=15690

Our experts say that in order to meet the 1 hour SO2 standard, the permit limit should be 61.7 lb/hr for each unit (123.4 lb/hr combined for Units #1 and #2), which equates to a plantwide average SO2 emission rate of 0.029 lb/MMBtu. The current permit and the draft permit include a 2.3 lb/MMbtu limit on SO2 emissions.

I hope all of that is helpful. Let me know if you have any questions –

Julie

Julie Mayfield, Co-Director
MountainTrue
29 N. Market Street, Suite 610
Asheville, NC 28801
(828) 258-8737, ext. 202
www.mountaintrue.org

mountaintrue.

MountainTrue is the result of a merger between three like-minded organizations, the Environmental and Conservation Organization (ECO), the Jackson Macon Conservation Alliance (J-MCA), and the Western North Carolina Alliance (WNCA). Our union strengthens our collective effectiveness in the face of continuing environmental challenges, and it enables us to have a stronger influence on public policy at the local, state and federal levels.

Ceron, Heather

From: Purvis, James
Sent: Friday, March 06, 2015 3:16 PM
To: Ashley Featherstone; Shepherd, Lorinda
Cc: Ceron, Heather
Subject: RE: follow up about SO2 emissions from Asheville Plant

Ashley,

Thanks! We received files 1-8. Have a great weekend!

Regards,

James Purvis
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404 562 9139

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Friday, March 06, 2015 2:33 PM
To: Purvis, James; Shepherd, Lorinda
Subject: RE: follow up about SO2 emissions from Asheville Plant

Files 7 and 8. You should have a total of 8 files.

Thanks,
Ashley

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
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ashley.featherstone@buncombecounty.org

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From: Purvis, James [mailto:Purvis.James@epa.gov]
Sent: Wednesday, March 04, 2015 1:06 PM
To: Ashley Featherstone
Cc: Betsy Brown; David Brigman; Ceron, Heather; Shepherd, Lorinda; Krivo, Stan
Subject: RE: follow up about SO2 emissions from Asheville Plant

Hi Ashley,

I've confirmed we will be able to call your office number at 2:30 tomorrow. Talk to you soon. Thank you!

Regards,

James Purvis
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404 562 9139

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Tuesday, March 03, 2015 1:53 PM
To: Purvis, James
Cc: Betsy Brown; david.brigman@buncombecounty.org
Subject: RE: follow up about SO2 emissions from Asheville Plant

James,

Thanks for your help with this. Thursday works for us if that works for everyone. In the morning, we are available after 10 am. In the afternoon, any time before 3 is good.

Ashley

Ashley Featherstone
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From: Purvis, James [mailto:Purvis.James@epa.gov]
Sent: Tuesday, March 03, 2015 11:15 AM
To: Ashley Featherstone
Cc: Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

Rejected email text:

Ashley,

As a follow up to our discussion yesterday I have asked for Stan to provide some thoughts on the comment letter you shared and we will be in touch soon.

In the meantime, I have attached a recent petition response order from EPA addressing similar issues raised in other states you may find helpful. The relevant language begins on page 10.

I've also attached the permit record for the SCE&G Wateree Station renewal where we saw some very similar issues raised during the public comment period but a petition was never filed. The response to comments is at the end of the file and begins on page 78.

We could possibly arrange a call Thursday to discuss in more detail if everyone needed is available.

What would work best for you?

Oh, I didn't include David on this email, but feel free to forward on in case there is interest in all the details and the call.

From: Purvis, James
Sent: Tuesday, March 03, 2015 11:14 AM
To: 'Ashley Featherstone'
Cc: 'Betsy Brown'
Subject: RE: follow up about SO2 emissions from Asheville Plant

The file is too big so here is the link to the petition response. See page 10:

http://www.epa.gov/region07/air/title5/petitiondb/petitions/homer_response2012.pdf

James

From: Purvis, James
Sent: Tuesday, March 03, 2015 11:05 AM
To: 'Ashley Featherstone'
Cc: Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

This is the big one....

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Monday, March 02, 2015 11:24 AM
To: Shepherd, Lorinda
Cc: Purvis, James; Ceron, Heather; Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

Lorinda,

We do have an electronic version of the application, it is 49 MB. I can burn it on a DVD and mail it to you. The file may also be on the Southern Environmental Law Center's FTP site, it was at one time. We can check and let you know.

We would like to discuss these comments with you sometime this week if possible.

Thanks,
Ashley

Ashley Featherstone
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From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Friday, February 27, 2015 2:43 PM
To: Ashley Featherstone
Cc: Purvis, James; Ceron, Heather
Subject: RE: follow up about SO2 emissions from Asheville Plant

Thanks, Ashley. We'll keep an eye out for the draft/proposed permit. Do you have an electronic copy of the application that you can send us?

Regards,
Lori

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Friday, February 27, 2015 2:20 PM
To: Shepherd, Lorinda; Purvis, James

Cc: Betsy Brown; James C. Raiford; david.brigman@buncombecounty.org
Subject: FW: follow up about SO2 emissions from Asheville Plant

Lorinda and James,

Attached is a letter from the Sierra Club with comments and a request for a public hearing for the Duke Energy Progress permit that is up for renewal in May. They are requesting a more stringent SO2 limit in the permit per their most recent modeling study for compliance with the SO2 NAAQS. We anticipate that the public comment period and 45 day EPA review period will begin in mid to late March as we are currently planning to renew the permit on May 11th (our permit issue dates are related to our board meeting schedule). I expect that we will be responding to these comments in our permit review document and/or a response to comments document that we are required to prepare per our rules whenever we do receive public comments on a permit. We wanted to let you know about this in advance.

Thanks,
Ashley

Ashley Featherstone
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From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 24, 2015 5:42 PM
To: Ashley Featherstone
Subject: follow up about SO2 emissions from Asheville Plant

Hi Ashley,

Thank you for taking the time out of your day to speak with me yesterday. As promised, please find attached a letter detailing the Sierra Club's concerns regarding sulfur dioxide emissions from the Asheville Plant as well as two reports that present the results of air dispersion modeling analysis and an analysis of scrubber operations at the Plant, respectively (also available here and here).

Regards,
Bridget

--

Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Ceron, Heather
Sent: Friday, March 06, 2015 1:53 PM
To: Ashley Featherstone; Purvis, James
Cc: Betsy Brown; david.brigman@buncombecounty.org; Shepherd, Lorinda; Krivo, Stan; James C. Raiford
Subject: RE: follow up about SO2 emissions from Asheville Plant

Ok, thanks! Happy Friday!

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Friday, March 06, 2015 1:52 PM
To: Purvis, James
Cc: Betsy Brown; david.brigman@buncombecounty.org; Ceron, Heather; Shepherd, Lorinda; Krivo, Stan; James C. Raiford
Subject: RE: follow up about SO2 emissions from Asheville Plant

James, Lori, Heather, and Stan,

Thanks again for your assistance and your time yesterday on the phone. I am going to send the application to Lori and James in separate messages since it will include multiple emails,

Ashley

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
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Regards,

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US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404 562 9139

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Sent: Tuesday, March 03, 2015 1:53 PM
To: Purvis, James
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Subject: RE: follow up about SO2 emissions from Asheville Plant

James,

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Ashley

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From: Purvis, James [mailto:Purvis.James@epa.gov]
Sent: Tuesday, March 03, 2015 11:15 AM
To: Ashley Featherstone
Cc: Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

Rejected email text:

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To: 'Ashley Featherstone'
Cc: 'Betsy Brown'
Subject: RE: follow up about SO2 emissions from Asheville Plant

The file is too big so here is the link to the petition response. See page 10:

http://www.epa.gov/region07/air/title5/petitiondb/petitions/homer_response2012.pdf

James

From: Purvis, James
Sent: Tuesday, March 03, 2015 11:05 AM
To: 'Ashley Featherstone'
Cc: Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

This is the big one....

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Monday, March 02, 2015 11:24 AM
To: Shepherd, Lorinda
Cc: Purvis, James; Ceron, Heather; Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

Lorinda,

We do have an electronic version of the application, it is 49 MB. I can burn it on a DVD and mail it to you. The file may also be on the Southern Environmental Law Center's FTP site, it was at one time. We can check and let you know.

We would like to discuss these comments with you sometime this week if possible.

Thanks,
Ashley

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

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From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Friday, February 27, 2015 2:43 PM
To: Ashley Featherstone
Cc: Purvis, James; Ceron, Heather
Subject: RE: follow up about SO2 emissions from Asheville Plant

Thanks, Ashley. We'll keep an eye out for the draft/proposed permit. Do you have an electronic copy of the application that you can send us?

Regards,
Lori

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Friday, February 27, 2015 2:20 PM
To: Shepherd, Lorinda; Purvis, James
Cc: Betsy Brown; James C. Raiford; david.brigman@buncombecounty.org
Subject: FW: follow up about SO2 emissions from Asheville Plant

Lorinda and James,

Attached is a letter from the Sierra Club with comments and a request for a public hearing for the Duke Energy Progress permit that is up for renewal in May. They are requesting a more stringent SO2 limit in the permit per their most recent modeling study for compliance with the SO2 NAAQS. We anticipate that the public comment period and 45 day EPA review period will begin in mid to late March as we are currently planning to

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From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 24, 2015 5:42 PM
To: Ashley Featherstone
Subject: follow up about SO2 emissions from Asheville Plant

Hi Ashley,

Thank you for taking the time out of your day to speak with me yesterday. As promised, please find attached a letter detailing the Sierra Club's concerns regarding sulfur dioxide emissions from the Asheville Plant as well as two reports that present the results of air dispersion modeling analysis and an analysis of scrubber operations at the Plant, respectively (also available here and here).

Regards,
Bridget

--
Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Purvis, James
Sent: Wednesday, March 04, 2015 2:43 PM
To: Ceron, Heather
Subject: comment letter attached
Attachments: 2015.02.24_ltr to Featherstone re Asheville SO2.pdf

The comment letter Western North Carolina wants to discuss on the call tomorrow.

Regards,

James Purvis
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404 562 9139

SIERRA CLUB
FOUNDED 1892

February 24, 2015

Via e-mail to ashley.featherstone@buncombecounty.org

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806

Re: Sulfur Dioxide Pollution from Duke Energy's Asheville Steam Electric Plant

Dear Ms. Featherstone:

Thank you for taking the time to speak with me yesterday. As we discussed, the results of an air quality dispersion modeling analysis conducted on behalf of the Sierra Club that we released last week demonstrate that sulfur dioxide ("SO_2") emissions from Duke Energy Progress' Asheville Steam Electric Plant are causing unsafe ambient air conditions downwind of the Plant. (A report prepared by Air Resource Specialists, Inc. detailing that analysis is attached as Exhibit A.) Troublingly, the analysis reveals that, on one out of every three to four days, operation of the Plant causes SO_2 ambient air concentrations that are higher than the 75 parts per billion ("ppb") (equivalent to 196 micrograms per cubic meter ("$\mu g/m^3$")) National Ambient Air Quality Standard ("NAAQS") that was set by the U.S. Environmental Protection Agency ("EPA") in 2010. Indeed, SO_2 concentrations as high as 696 $\mu g/m^3$—nearly 3.5 times higher than EPA's health-based standard—were calculated. Areas with elevated SO_2 concentrations include parts of South Asheville, Fairview, and Leicester, as well as hiking trails in Bent Creek Forest. Given the fact that exposure to SO_2 for even very short periods of time can result in serious adverse health effects, there is real cause for concern by the communities within the area of impact.

In addition to the new modeling results, a separate analysis of the operations at the Asheville Plant indicates that, after an initial decline following the installation of the flue gas desulfurization systems (or "scrubbers"), SO_2 emission rates increased in 2008 and remained

higher than the rates that were being achieved during the first months of scrubber operation. (A report by Dr. Ranajit Sahu detailing that analysis is attached as Exhibit B.) For both of the coal-burning units at the Asheville Plant, the emission rate increases coincide with self-reported declines in Duke's annual scrubber efficiencies. Both scrubbers are designed to achieve 97% SO_2 removal efficiency, and, following their installation, both were tested and found to actually be removing more than 97% of the SO_2 generated in the Plant's two boilers. Nevertheless, in 2009, Duke reported scrubber efficiencies of 93.1% and 93.8% for Asheville Units 1 and 2, respectively. Between 2009 and 2012 (the latest year for which such data are available), Duke's self-reported annual scrubber efficiencies remained low, averaging around 93%. Independent calculations of actual scrubber performance paint an even worse picture: scrubber efficiency as low as 78% for Unit 2 in 2011.

The way Duke operates the equipment at its Asheville Plant determines the rate at which pollutants are released into the environment, and the new analysis demonstrates that the Plant's SO_2 emission rate increases are due mainly to the reduction in the efficiency of its scrubbers. That is, Duke appears to not be operating its pollution control equipment as that equipment was designed to be operated. In addition to the sub-par operation of the Plant's scrubbers, Dr. Sahu also examined the sulfur content of the coal that Duke has been burning at its Asheville Plant. Duke's own fuel type reporting shows that, after 2011, the sulfur content of the coal being burned at the Asheville Plant became more variable and increased from roughly 1% sulfur to more than 3% sulfur. Dr. Sahu concluded that the switch to burning cheaper coal with higher sulfur content likely contributed to the post-2011 emission rate increases at the Plant.

Given this new evidence of the connection between Duke's operational changes and the increased SO_2 emission rates at the Asheville Plant, the community downwind of the Plant is rightly concerned. Thus, we urge the Western North Carolina Regional Air Quality Agency ("WNCRAQA" or the "Agency") to give due consideration to the new evidence and to take all steps necessary to protect the public health and welfare and to ensure that Duke operates its Asheville Plant in accordance with the law.

As you know, the current Title V air operating permit for the Plant—which was issued by WNCRAQA on January 18, 2011 and expires on May 31, 2015—requires the Plant to be operated "with such control or in such a manner that the source shall not cause the ambient air quality standards in WNCRAQA Code 4.0400 to be exceeded at any point

beyond the premises on which the source is located." Air Quality Permit No. 11-628-10B, Sec. 5(II). The ambient air quality standards in that section of the Code include the 75 ppb limit for SO_2. *See* WNCRAQA Code § 4.402(d). That limit is being exceeded.

Moreover, the Permit also prohibits "pollution in contravention of local laws or rules," Air Quality Permit No. 11-628-10B, Sec. 5(A), and the Agency's regulations, like the Permit, require that the Plant be operated with pollution controls sufficient to ensure that emissions from the Plant do not cause an exceedance of the NAAQS, *see* WNCRAQA Code § 4.0501(c) ("any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards of Section .0400 of this Chapter to be exceeded at any point beyond the premises on which the source is located"); *see also* WNCRAQA Code § 4.0401(c) ("No facility or source of air pollution shall cause any ambient air quality standard in this Section to be exceeded or contribute to a violation of any ambient air quality standard in this Section.").

Given the air dispersion modeling results, which demonstrate that emissions from the Plant caused SO_2 concentrations greater than the 75 ppb NAAQS on approximately one out of every three days between August 2010 and July 2014 at downwind locations, it is clear that recent operations at the Asheville Plant do not comply with the Permit provisions and regulatory requirements identified above—*i.e.*, the narrative emission control standards that prohibit the exceedance of the NAAQS. The recent air dispersion modeling allows the Agency to translate this narrative standard into a more easily enforceable numerical emission limitation that ensures that SO_2 emissions from the Plant do not interfere with the attainment or maintenance of the NAAQS, that is more readily understood by the public, and that protects the health of the residents of Buncombe County.

As EPA has recognized, air dispersion modeling is the best way to assess SO_2 concentrations for NAAQS implementation purposes. In its final rule, EPA remarked upon the "strong source-oriented nature of SO_2 ambient impacts"[1] and concluded that the appropriate methodology for purposes of determining compliance, attainment, and nonattainment with the new NAAQS is air dispersion modeling.[2] In promulgating the SO_2

[1] U.S. EPA, Final Rule, Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. 35,520, 35,370 (June 22, 2010).

[2] *Id.* at 35,551 (describing dispersion modeling as "the most technically appropriate, efficient, and readily available method for assessing short-term ambient SO2 concentrations in areas with large point sources").

NAAQS, EPA explained further that "it is more appropriate and efficient to principally use modeling to assess compliance for medium to larger sources."[3]

EPA urges states to use modeling given its strengths and the weaknesses of the alternative, monitoring-based approach: "the current monitoring network provides relatively limited geographic coverage, and many monitors in the existing network are not sited with the objective of characterizing source-oriented maximum concentrations."[4] Indeed, the nearest air monitor (in Swain County) is 52 miles from Asheville and, therefore, is unable to provide an accurate representation of the Plant's effect on air quality. The modeling of emissions from the Asheville Plant was based on actual emissions data collected from the Plant's continuous emission monitoring system and meteorological data collected by the National Weather Service at the Asheville Regional Airport, which, given the airport's close proximity to the Plant, provide a reliable basis for understanding dispersion of the pollution. The experts who conducted the analysis utilized the air dispersion model developed and approved by EPA (AERMOD) and followed applicable federal and state modeling guidance. EPA's AERMOD has been rigorously field-tested, including in areas with complex, hilly terrain, and such testing shows a high correlation between monitored and modeled ambient pollutant concentrations.

The results of the air dispersion modeling analysis demonstrate that the numerical limit for SO_2 emissions included in the Permit (2.3 lbs/MMBtu) is not stringent enough to ensure compliance with the Permit's requirement that the Plant not cause exceedances of the NAAQS and, therefore, is inconsistent with that requirement. The modeled SO_2 emission rate that resulted in an AERMOD prediction equal to the 75 ppb NAAQS was 61.7 lb/hr for each unit (123.4 lbs/hr combined for Units 1 and 2). Based on the BTU rating of each boiler as listed in the Permit, this SO_2 emissions rate would equate to an average rate across both units of 0.029 lb/MMBtu. Thus, in order to ensure attainment and maintenance of the SO_2 NAAQS downwind of the Plant, a numerical emission limit *at least* as stringent as 123.4 lbs/hr or 0.029 lb/MMBtu is necessary. The analysis of Duke's operation of its Asheville scrubbers reveals that such a limit could be achieved if Duke operates its scrubbers

---

[3] *Id.* at 35,570.

[4] U.S. EPA, Next Steps for Designations and Implementation of the Sulfur Dioxide National Ambient Air Quality Standard (Feb. 6, 2013), *available at* http://www.epa.gov/air/sulfurdioxide/pdfs/20130207SO2StrategyPaper.pdf.

consistent with their design specifications and switches to a fuel source with lower sulfur content. Both of these changes are feasible.

We urge the Agency to consider this information as it evaluates Duke's permit renewal application and to include in the draft permit a modeling-based SO_2 emissions limit that is calculated to ensure attainment and maintenance of the NAAQS at locations downwind of the Plant. We look forward to reviewing the draft permit and request that the Agency hold a public hearing as part of the permit renewal process. In the meantime, please let us know if we can provide any additional information that might assist the Agency in this process.

Thank you for your attention to and consideration of our concerns and please do not hesitate to contact me if you would like to discuss them further.

Sincerely,

Bridget M. Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
bridget.lee@sierraclub.org

Ceron, Heather

From: Purvis, James
Sent: Wednesday, March 04, 2015 1:06 PM
To: Ashley Featherstone
Cc: Betsy Brown; david.brigman@buncombecounty.org; Ceron, Heather; Shepherd, Lorinda; Krivo, Stan
Subject: RE: follow up about SO2 emissions from Asheville Plant

Hi Ashley,

I've confirmed we will be able to call your office number at 2:30 tomorrow. Talk to you soon. Thank you!

Regards,

James Purvis
US EPA Region IV
Air, Pesticides & Toxics Management Division
Air Permits Section
404 562 9139

From: Ashley Featherstone [mailto:Ashley.Featherstone@buncombecounty.org]
Sent: Tuesday, March 03, 2015 1:53 PM
To: Purvis, James
Cc: Betsy Brown; david.brigman@buncombecounty.org
Subject: RE: follow up about SO2 emissions from Asheville Plant

James,

Thanks for your help with this. Thursday works for us if that works for everyone. In the morning, we are available after 10 am. In the afternoon, any time before 3 is good.

Ashley

Ashley Featherstone
Permitting Program Manager
WNC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
Phone: 828.250.6778
Fax: 828.250.6222
http://www.wncairquality.org
ashley.featherstone@buncombecounty.org

Follow us on Facebook, Twitter, and Youtube!

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From: Purvis, James [mailto:Purvis.James@epa.gov]
Sent: Tuesday, March 03, 2015 11:15 AM
To: Ashley Featherstone
Cc: Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

Rejected email text:

Ashley,

As a follow up to our discussion yesterday I have asked for Stan to provide some thoughts on the comment letter you shared and we will be in touch soon.

In the meantime, I have attached a recent petition response order from EPA addressing similar issues raised in other states you may find helpful. The relevant language begins on page 10.

I've also attached the permit record for the SCE&G Wateree Station renewal where we saw some very similar issues raised during the public comment period but a petition was never filed. The response to comments is at the end of the file and begins on page 78.

We could possibly arrange a call Thursday to discuss in more detail if everyone needed is available.

What would work best for you?

Oh, I didn't include David on this email, but feel free to forward on in case there is interest in all the details and the call.

From: Purvis, James
Sent: Tuesday, March 03, 2015 11:14 AM
To: 'Ashley Featherstone'
Cc: 'Betsy Brown'
Subject: RE: follow up about SO2 emissions from Asheville Plant

The file is too big so here is the link to the petition response. See page 10:

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Cc: Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

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Sent: Monday, March 02, 2015 11:24 AM
To: Shepherd, Lorinda
Cc: Purvis, James; Ceron, Heather; Betsy Brown
Subject: RE: follow up about SO2 emissions from Asheville Plant

Lorinda,

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We would like to discuss these comments with you sometime this week if possible.

Thanks,
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From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Friday, February 27, 2015 2:43 PM
To: Ashley Featherstone
Cc: Purvis, James; Ceron, Heather
Subject: RE: follow up about SO2 emissions from Asheville Plant

Thanks, Ashley. We'll keep an eye out for the draft/proposed permit. Do you have an electronic copy of the application that you can send us?

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To: Shepherd, Lorinda; Purvis, James

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Lorinda and James,

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From: Bridget Lee [mailto:bridget.lee@sierraclub.org]
Sent: Tuesday, February 24, 2015 5:42 PM
To: Ashley Featherstone
Subject: follow up about SO2 emissions from Asheville Plant

Hi Ashley,

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Ceron, Heather

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Bridget

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Bridget Lee
Staff Attorney
Sierra Club
50 F Street, NW, 8th Floor
Washington, DC 20001
202-675-6275
202-547-6009 (fax)
bridget.lee@sierraclub.org

Ceron, Heather

From: Beller, Clifford
Sent: Monday, August 18, 2014 7:05 AM
To: Ceron, Heather
Subject: FW: EPA-R4-2014-009186 Duke Energy sites
Attachments: printPage (5).pdf

FOIA for Duke energy facilities

From: Pressley, Miriam
Sent: Thursday, August 14, 2014 4:43 PM
To: Lawson, Yvonne; Beller, Clifford; Mattox, Mary; Buchanan, Alverine; Riddell, Dorothy
Subject: EPA-R4-2014-009186 Duke Energy sites

Attached is a copy of the above referenced FOIA request. Please conduct a search and inform me whether your section/branch has any responsive records. If possible, please respond before or by August 25, 2014. Thank you.

Miriam V. Pressley
U.S. Environmental Protection Agency
Information Access Section
Atlanta Federal Center
61 Forsyth Street
Atlanta, Georgia 30303-8960
Tel: (404) 562-8677
Email: pressley.miriam@epa.gov

WESTERN NORTH CAROLINA
REGIONAL AIR QUALITY AGENCY

AIR QUALITY PERMIT

Until such time as this permit expires or is modified or revoked, the below named Permittee is authorized to operate, as outlined in Part I, "Air Quality Title V Operation Permit", and to construct and operate, as outlined in Part II, "Air Quality Construction and Operation Permit", the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of the Western North Carolina Regional Air Quality Agency Air Quality Code (WNCRAQA Code) and is subject to all requirements therein.

Pursuant to WNCRAQA Code Chapter 17, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the Western North Carolina Regional Air Quality Agency and received an Air Quality Permit, except as provided in this permit.

Permittee:	**Duke Energy Progress, Inc.** **Asheville Steam Electric Plant**
Facility ID:	**11-628**
Facility Site Location:	**200 CP&L Drive**
City, State, Zip:	**Arden, North Carolina 28704**
Facility Mailing Address:	**200 CP&L Drive**
City, State, Zip:	**Arden, North Carolina 28704**
Permit Number:	**11-628-16**
Replaces Permit Number:	**11-628-10D**
Issue Date:	**July 11, 2016**
Effective Date:	**August 1, 2016**
Renewal Application Due Date:	**October 31, 2020**
Expiration Date:	**July 31, 2021**

David A. Brigman, Director

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SECTION 2 - SPECIFIC CONDITIONS AND LIMITATIONS

SECTION 3 - CLEAN AIR INTERSTATE RULE (CAIR) PERMIT REQUIREMENTS

SECTION 4 - ACID RAIN PROGRAM REQUIREMENTS

SECTION 5 - GENERAL CONDITIONS AND LIMITATIONS

ATTACHMENTS

List of Insignificant Activities
List of Acronyms
Acid Rain Permit Application dated June 23, 2014
Acid Rain NO_X Compliance Plan dated March 23, 2015
CAIR Permit Application dated June 23, 2014

PART I - AIR QUALITY TITLE V OPERATION PERMIT

The Western North Carolina Regional Air Quality Agency (WNCRAQA), the United States Environmental Protection Agency (EPA), and citizens as defined under the Federal Clean Air Act have the authority to enforce the terms, conditions, and limitations contained in Part I of this permit unless otherwise specified.

Under WNCRAQA Code Chapter 17, the operation of emission source(s) and associated air pollution control device(s) listed in Part I of this permit is based on plans, specifications, operating parameters, and other information as submitted in the Air Quality Permit Application.

SECTION 1 - PERMITTED EMISSION SOURCE(S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S)

The following table contains a summary of all permitted emission sources and associated air pollution control devices:

Emission Source ID	Emission Source Description	Control Device ID	Control Device Description
Unit 1 Boiler	One (1) 2,155 million BTU per hour (nominally rated) Riley Stoker pulverized coal-fired boiler equipped with low NO_X burners and alkaline-based fuel additive[1]	Unit 1 SCR	One (1) selective catalytic reduction system[2]
		Unit 1 ESP	One (1) electrostatic precipitator
		Unit 1 FGD	One (1) flue gas desulfurization system[3]
Unit 2 Boiler	One (1) 2,102 million BTU per hour (nominally rated) Babcock & Wilcox pulverized coal-fired boiler equipped with low NO_X burners and alkaline-based fuel additive[1]	Unit 2 SCR	One (1) selective catalytic reduction system[2]
		Unit 2 ESP	One (1) electrostatic precipitator
		Unit 2 FGD	One (1) flue gas desulfurization system[3]
Unit 3 IC Turbine	One (1) 1,929 million BTU per hour (nominally rated) General Electric natural gas / No. 2 fuel oil-fired simple cycle internal combustion turbine	NA	NA
Unit 4 IC Turbine	One (1) 1,929 million BTU per hour (nominally rated) General Electric natural gas / No. 2 fuel oil-fired simple cycle internal combustion turbine	NA	NA
Limestone Crusher	One (1) 150-ton per hour crusher	LC-BF-1	One (1) bagfilter

[1] Alkaline-based fuel additive may be used on an as-needed basis not to exceed 4 pounds per ton of coal burned. Fuel additives shall not contain any toxic air pollutants listed in WNCRAQA Code 17.0711. Fuel additive products not equivalent to those specified in the Application Addendum dated November 4, 2010 are not allowed without a permit modification.

[2] For ozone season NO_X control and compliance with the North Carolina Clean Smokestacks Act (SB 1078 – Air Quality / Electric Utilities Bill). To be operated on an as needed basis. A sulfur trioxide (SO_3) mitigation system can be used when needed in conjunction with each SCR.

[3] For compliance with the North Carolina Clean Smokestacks Act (SB 1078 – Air Quality / Electric Utilities Bill). To be operated on an as-needed basis.

Emission Source ID	Emission Source Description	Control Device ID	Control Device Description
Limestone Conveyor 1	One (1) 150-ton per hour belt conveyor measuring 270 feet x 24 inches	NA	NA
Limestone Conveyor 2	One (1) 150-ton per hour belt conveyor measuring 408 feet x 24 inches	CONV-BF-2	One (1) bagfilter
Limestone Conveyor 3	One (1) 150-ton per hour belt conveyor measuring 44 feet x 24 inches	NA	NA
Limestone Bin 1	One (1) 400-ton capacity storage bin	LDB-BF-1	One (1) bagfilter
Limestone Bin 2	One (1) 400-ton capacity storage bin	LDB-BF-2	One (1) bagfilter
Sorbent 1	One (1) 40-50-ton capacity sorbent receiving trailer	SORB-DC-1	One (1) dust collector controlling Sorbent 1 and Sorbent 2
Sorbent 2	One (1) approximately 18-ton capacity sorbent metering trailer		
Emergency Generator 1	One (1) diesel-fired emergency-use generator with a rated output capacity of 380 horsepower	NA	NA
Fire Pump Engine 1	One (1) diesel-fired emergency-use fire pump engine with a rated output capacity of 370 horsepower	NA	NA

SECTION 2 - SPECIFIC CONDITIONS AND LIMITATIONS

The emission sources and associated air pollution control devices listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

2.1 - Emission Source ID Unit 1 Boiler & Unit 2 Boiler

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Sulfur dioxide	26,880 pounds per 24-hour block period for Unit 1 Boiler 26,880 pounds per 24-hour block period for Unit 2 Boiler	WNCRAQA Code 4.0501(c)
	2.3 pounds per million BTU heat input	WNCRAQA Code 4.0516
	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
	Phase II Acid Rain Permit Requirements (see Section 4)	WNCRAQA Code 17.0402

Regulated Pollutant	Limits / Standards	Applicable Regulation
Nitrogen oxides	When burning only oil or natural gas - 0.8 pounds per million BTU heat input; When burning only coal - 1.8 pounds per million BTU heat input; When burning both coal and oil or natural gas in combination - as calculated by the equation E = [(Ec)(Qc) + (Eo)(Qo)] / Qt, where: E = emission limit in pounds per million BTU heat input Ec = 1.8 pounds per million BTU heat input Eo = 0.8 pounds per million BTU heat input Qc = coal heat input in BTU per hour Qo = oil and gas heat input in BTU per hour Qt = Qc + Qo	WNCRAQA Code 4.0519
Nitrogen oxides	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
	Phase II Acid Rain program requirements (see Section 4)	WNCRAQA Code 17.0402
Visible emissions	40 percent opacity	WNCRAQA Code 4.0521
	Local-enforceable only: Unit 1 Boiler - 10 percent annual average opacity; Unit 2 Boiler - 5 percent annual average opacity	WNCRAQA Code 4.0536
Particulate matter	0.12 pounds per million BTU heat input	WNCRAQA Code 4.0536
Mercury	See Section 2.1(J)	WNCRAQA Code 4.2500
Excess emissions	Malfunction abatement plan	WNCRAQA Code 4.0535
Various	As defined in specific condition	WNCRAQA Code 4.0530(u)
Hazardous Air Pollutants	As defined in specific condition	WNCRAQA Code 4.1111 (40 CFR 63, Subpart UUUUU)
Toxic air pollutants	Local-enforceable only: Recycled oil specifications	WNCRAQA Code 17.0700
	Local-enforceable only: Unit 1 Boiler - Waste oils / solvents specifications	
	Local-enforceable only: Boiler tube cleaning solution specifications	

(A) WNCRAQA CODE 4.0501(c) – COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0501(c)]
Emissions of sulfur dioxide from the Unit 1 Boiler shall not exceed 26,880 pounds per 24-hour block period. Emissions of sulfur dioxide from the Unit 2 Boiler shall not exceed 26,880 pounds per 24-hour block period.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0608(e) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(A)(1) above, the Permittee shall

determine sulfur dioxide emissions for each boiler in pounds per 24-hour block period using a CEMS meeting the requirements of 40 CFR Part 75, except that the data reported shall not include data substituted using the missing data procedures in Subpart D of 40 CFR 75, nor shall the data have been bias adjusted according to the procedures of 40 CFR Part 75. Compliance with the sulfur dioxide emission limitation shall be determined by summing the hourly CEMS values for each boiler in pounds of sulfur dioxide over a 24-hour block period beginning at midnight. The minimum number of data points, shall be determined by 40 CFR Part 75. If any 24-hour block total exceeds the mass emissions limits given in Section 2.1(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0501(c).

(3) **Reporting** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values for each boiler in pounds of sulfur dioxide per 24-hour for each 24-hour block period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(4) **Reporting/CEMS Availability** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit sulfur dioxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(B) **WNCRAQA CODE 4.0516 - SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0516 & 17.0508(b)]
Emissions of sulfur dioxide from each source shall not exceed 2.3 pounds per million BTU heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

(2) **Testing** [WNCRAQA Code 4.2611]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2611 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(B)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0516.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0608(e) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(B)(1) above, the Permittee shall determine sulfur dioxide emissions in pounds per million BTU using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the sulfur dioxide emission limitation shall be determined by averaging hourly CEMS values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any 24-hour block average exceeds the limitation given in Section 2.1(B)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0516.

(4) **Reporting** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(5) **Reporting/CEMS Availability** [WNCRAQA Code 4.0608(h)(2) & 17.0508(f)]
The Permittee shall submit sulfur dioxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(C) WNCRAQA CODE 4.0519 - CONTROL OF NITROGEN DIOXIDE AND NITROGEN OXIDES EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0519 & 17.0508(b)]
Emissions of nitrogen oxides from each source shall not exceed 0.8 pounds per million BTU heat input when combusting oil or natural gas alone. Emissions of nitrogen oxides from these sources shall not exceed 1.8 pounds per million BTU heat input when combusting coal alone. Emissions of nitrogen oxides from these sources when combusting both coal and oil or natural gas in combination shall not exceed the limit calculated by the following equation:

$$E = [(Ec)(Qc) + (Eo)(Qo)] / Qt,$$

where:
E = emission limit for combination in pounds per million BTU
Ec = 1.8 pounds per million BTU heat input for coal only
Eo = 0.8 pounds per million BTU heat input for oil or natural gas
Qc = actual coal heat input to the combination in BTU per hour
Qo = actual oil and natural gas heat input to the combination in BTU per hour
Qt = Qc + Qo.

(2) **Testing** [WNCRAQA Code 4.2612]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2612 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0519.

(3) **Monitoring** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
To assure compliance with the limitations given in Section 2.1(C)(1) above, the Permittee shall determine nitrogen oxide emissions in pounds per million BTU using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the nitrogen oxides emission limitations shall be determined by averaging hourly CEMS values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75.

For monitoring purposes, the following emission limits apply:

(a) When only coal is burned, the emission limit shall be 1.8 pounds per million BTU heat input;

(b) When only oil or natural gas is burned, the emission limit shall be 0.8 pounds per million BTU heat input; or

(c) When oil or natural gas is burned other than for startup and for periods greater than 24 hours, the emission limit shall be calculated according to the equation in Section 2.1(B)(1) above.

If any 24-hour block average exceeds the limitations given in Section 2.1(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0519.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
Records (written or electronic format) of monthly coal, oil, and natural gas consumption shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(5) **Reporting** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The Permittee shall submit the CEMS data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(6) **Reporting/CEMS Availability** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The Permittee shall submit nitrogen oxide CEMS downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(D) WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0521(c) & 17.0508(b)]
Visible emissions from each source shall not exceed 40 percent opacity when averaged over a six-minute period.

(2) **Testing** [WNCRAQA Code 4.2610]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(D)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0521(g), 4.0606, 4.0612, & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(D)(1) above, the Permittee shall either:

- install, maintain, and operate a COMS for measuring the opacity of emissions (and follow the COMS Monitoring Option), or

- install, maintain, and operate a PM CEMS (and follow the PM CEMS Monitoring Option).

The Permittee shall submit a written notification to the WNCRAQA at least 30 days before changing the compliance monitoring option.

(a) **COMS Monitoring Option**
When using this option, the Permittee shall determine opacity using a COMS meeting the requirements of Appendix P of 40 CFR Part 51 and/or 40 CFR Part 75. Compliance with the opacity limitation shall be calculated using six-minute averages of the COMS values. Excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under WNCRAQA Code 4.0535:

(i) No more than 4 six-minute periods shall exceed the opacity limitation in any one day; and

(ii) The percent of excess emissions (defined as the percentage of monitored operating time in a calendar quarter above the opacity limit) shall not exceed 0.8 percent of the total operating hours. If a source operates less than 500 hours during a calendar quarter, the percent of excess emissions shall be calculated by including hours operated immediately previous to this quarter until 500 operational hours are obtained.

(b) **PM CEMS Monitoring Option**
When using this option, opacity shall be measured by conducting Method 9 performance tests in accordance with §60.45(b)(7) following the schedule in §60.45(b)(7)(i). Records shall be maintained according to the requirements specified in §60.45(h)(1) for all Method 9 performance tests required. The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521 if the monitoring is not performed, if the monitored values exceed the limitations given above, or if the records are not maintained. For the purposes of this condition, it is not necessary to submit a testing protocol prior to the scheduled test date, as specified in General Condition JJ, if no changes are being made to the most recently approved previous protocol used for Method 9 testing under this condition. If the most recently approved previous protocol is to be used for testing, it shall be submitted with the test report. Excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under WNCRAQA Code 4.0535:

(i) No six-minute period shall exceed 90 percent opacity;

(ii) No more than 1 six-minute period shall exceed the opacity limitation in any one hour; and

(iii) No more than 4 six-minute periods shall exceed the opacity limitation in any one day.

(4) **Reporting** [WNCRAQA Code 4.0606 & 17.0508(f)]

(a) **COMS Monitoring Option**
When using this option, the Permittee shall submit excess emissions and monitor downtime reports as required under Appendix P of 40 CFR Part 51 no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. For periods of excess emissions, defined as each six-minute period average greater than 40 percent opacity, the opacity measurements recorded by the COMS shall be reported as described in Paragraphs 4.0 and 5.1 of Appendix P of 40 CFR Part 51 except that a six-minute time period shall be deemed as an appropriate alternative opacity averaging

period as described in Paragraph 4.2 of Appendix P of 40 CFR Part 51. A minimum of 36 data points, equally spaced, is required to determine a valid six-minute value. All instances of deviations from the requirements of this permit must be clearly identified.

(b) PM CEMS Monitoring Option
When using this option, the Permittee shall report the results of all Method 9 performance tests (required during the reporting period per the schedule in §60.45(b)(7)(i)) with the excess emissions and monitoring system performance reports no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

(E) WNCRAQA CODE 4.0536 - PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS (ANNUAL AVERAGE OPACITY REQUIREMENTS - LOCAL-ENFORCEABLE ONLY)

(1) Emission Limitation/Standard [WNCRAQA Code 4.0536(b) & 17.0508(b)]
In addition to the limit given in Section 2.1(D)(1) above, visible emissions from the utility boiler units shall not exceed the following annual average opacity limits:

- Unit 1 Boiler - 10 percent; and

- Unit 2 Boiler - 5 percent.

(2) Testing [WNCRAQA Code 4.2609]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2609 and General Condition JJ. If the results of this test are above the limit given in Section 2.1(E)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(3) Monitoring/Recordkeeping [WNCRAQA Code 4.0536(g) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.1(E)(1) above, the Permittee shall follow either the COMS Monitoring Option or the PM CEMS Monitoring Option (described in Section 2.1(C)(3)).

(a) COMS Monitoring Option
When using this option, the Permittee shall determine opacity using a COMS meeting the performance specifications of Appendix B of 40 CFR Part 60. Each day an annual average opacity value shall be calculated for each unit for the most recent 365-day period ending with the end of the previous day. The average is the sum of the measured non-overlapping six-minute averages of opacity determined only while the unit is in operation divided by the number of such measured non-overlapping six-minute averages. Startup, shutdown, and non-operating time shall not be included in the annual average opacity calculation, but malfunction time shall be included.

(b) PM CEM Monitoring Option
When using this option, the Permittee shall calculate each day an annual average opacity value for the most recent 365-day period ending with the end of the previous day. The average is the sum of the measured non-overlapping one-hour averages of opacity determined only while the unit is in operation divided by the number of such measured non-overlapping one-hour averages. Start-up, shut-down, and non-operating time shall not be included in the annual average opacity calculation, but malfunction time shall be included. The hourly opacity values shall be determined using the PM CEMS hourly average output values as

follows:

$$\text{Opacity, average for each hour} = \frac{(\text{Actual PM CEMS Output, average for each hour})(\text{Z, Opacity})}{(\text{Y, mg/m}^3)}$$

where: Y = The PM CEMS output value (mg/m^3) established during the initial PM CEMS PS-11 certification procedure that corresponds to 0.03 lb PM/MMBtu

Z = 5% opacity

(c) For periods of less than 365 days of operation using either the COM Monitoring Option or the PM CEMS Monitoring Option exclusively, the AAO shall be calculated as follows:

$$\text{AAO} = \frac{\sum_{i=1}^{Z}(\text{6 minute COMS block i}) + \left(\sum_{j=1}^{Y}(\text{1 hour PM CEMS block j})(\text{10 six - minute blocks / 1 hour block})\right)}{Z + 10Y}$$

where: Z = Number of six-minute COM blocks of data within the 365-day look-back period

Y = Number of one-hour PM CEMS blocks of data within the 365-day look-back period

Note: 6 minute COMS block i and 1 hour PM CEMS block j refer to the opacity measurements determined from the COMS and PM CEMS, respectively.

(4) <u>Reporting</u> [WNCRAQA Code 4.0536(b) & 17.0508(f)]

(a) <u>COM Monitoring Option</u>
When using this option, the Permittee shall submit a report by the 30th day following the end of each month showing, for each day of the previous month, the calculated annual average opacity of each unit and the annual average opacity limit.

(b) <u>PM CEM Monitoring Option</u>
When using this option, the Permittee shall submit a report showing the calculated annual average opacity of each unit and the annual average opacity limit for each day during the reporting period no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

Quarterly excess emissions reports shall be used as an indication of good operation and maintenance of the electrostatic precipitators. These sources shall be deemed to be properly operated and maintained if the calculated one-hour average PM concentrations (mg/m^3) exceed the concentration (mg/m^3) corresponding to 0.03 pounds per million Btu heat input less than 3.0 percent of the total operating time, adjusted for monitor downtime, for any given calendar quarter. In addition, these sources shall be deemed to be properly operated and maintained if monitor downtime does not exceed 25 percent (10 percent beginning on January 1, 2012) for any given calendar quarter. If monitor downtime is greater than 2 percent for any given calendar quarter, the Permittee shall provide a full explanation in the

quarterly excess emissions report, including actions taken to reduce monitor downtime to below 2 percent.

(F) **WNCRAQA CODE 4.0536 - PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS (PARTICULATE MATTER REQUIREMENTS)**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0536(b) & 17.0508(b)]
Emissions of particulate matter from each utility boiler unit shall not exceed 0.12 pounds per million BTU of heat input.

(2) **Testing** [WNCRAQA Code 4.2609 & 4.0536(e)]
The Permittee shall produce each year for each unit at least one stack test for particulate matter in accordance with Method 5B of Appendix A of 40 CFR Part 60 and General Condition JJ. In the event that a boiler exceeds 80 percent of its particulate emission limit during the stack test, the Permittee shall schedule and conduct another stack test within 6 months. Upon demonstration that the source is operating under 80 percent of its particulate limit, as shown by three consecutive semiannual stack tests, the source may resume annual stack tests. If the results of any test are above the limit given in Section 2.1(F)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0614 & 17.0508(f)]
In addition to the stack test required in Section 2.1(F)(2) above, to provide a reasonable assurance of compliance with the limitation given in Section 2.1(F)(1) above, the Permittee shall follow either the COMS Monitoring Option or the PM CEMS Monitoring Option (described in Section 2.1(D)(3)).

(a) **COM Monitoring Option**
When using this option, the Permittee shall determine opacity using a COMS meeting the requirements of Appendix P of 40 CFR Part 51 and/or 40 CFR Part 75. Any opacity value in excess of the following indicator ranges shall be deemed an excursion as defined in 40 CFR Part 64:

- Unit 1 Boiler - 14 percent; and

- Unit 2 Boiler - 9 percent

The appropriate averaging period for which an excursion shall be determined is each 3-hour block average of six-minute opacity averages beginning at midnight (total of eight 3-hour block periods each day). Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for data averages and calculations. The Permittee shall use all the data collected during all other periods in assessing the operation of the ESP.

For any excursion, the Permittee shall initiate an inspection of the control equipment and/or COMS, as appropriate, and make any necessary repairs. In addition to implementing procedures outlined in the malfunction abatement plan required under WNCRAQA Code 4.0535, the following corrective actions shall be taken:

(i) Control operator shall notify the shift supervisor or responsible official (plant manager or representative) in accordance with plant procedures;

(ii) System dispatcher shall be alerted if load reductions are anticipated;

(iii) The following operating practices and procedures shall be initiated as necessary:

- Identify cause of excursion;

- Isolate ESP field or increase power input to other fields if necessary;
- Reduce load, as necessary, to help minimize emissions;
- Proceed to shutdown or confirm malfunction conditions exist if emissions can not be controlled appropriately;
- Initiate work order for ESP inspection and repair as needed;

(iv) Nature and cause of excursion shall be documented in operations log;

(v) Provide notification to WNCRAQA as necessary.

If 5 percent or greater of COMS data (excluding startup, shutdown, and malfunction periods) recorded in a calendar quarter exceed the opacity values listed above, a stack test shall be performed in the following calendar quarter to demonstrate compliance with the limitation given in Section 2.1(F)(1) above. In the event that a unit exceeds 80 percent of its particulate emission limit during the stack test, the Permittee shall schedule and conduct another stack test within 6 months. Upon demonstration that the source is operating under 80 percent of its particulate limit, as shown by three consecutive semiannual stack tests, the source may resume annual stack tests. If a source operates less than 2,200 hours during any quarter, the source may evaluate 3-hour opacity values using operating data for the current quarter and the preceding quarters until 2,200 hours of data are obtained. If the result of any stack test is greater than any limit given in Section 2.1(F)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0536.

(b) <u>PM CEM Monitoring Option</u>
When using this option, compliance with the particulate limit in Section 2.1(F)(1) shall be determined using the PM CEMS. A measured exceedance of 0.10 pounds per million Btu of heat input (24-hour daily arithmetic average) shall be a violation of the corresponding emission standards in Section 2.1(E)(1).

(i) Each PM CEMS shall meet the requirements of Performance Specification PS-11 of Appendix B of 40 CFR Part 60, and shall be installed, evaluated, operated, and maintained according to the applicable requirements in §60.49Da(v), §§60.45(b)(5), (b)(7), and (g)(4). The Permittee shall have on file with the Director an approved quality assurance program, and shall submit to the director within the time period of his request for his approval a revised quality assurance program to include the provisions of 40 CFR 60, Appendix F, Procedure 2 for the PM CEMS.

(ii) The initial performance evaluation shall be completed no later than 180 days after the date of notification to the WNCRAQA of the first instance the Permittee selects the compliance PM CEMS Monitoring Option.

(iii) The PM emission rate shall be determined based on a 24-hour daily (block) average of the hourly arithmetic average emissions concentrations using the CEMS outlet data each boiler operating day, except for data obtained during startup, shutdown, and malfunction. Averages are only calculated for boiler operating days that have valid data for at least 18 hours of unit operation during which the standard applies. All valid hourly emission rates on operating days not meeting the minimum 18-hour requirement shall be averaged with all of the valid hourly emission rates of the next boiler operating day meeting the minimum 18-hour requirement. The 24-hour block arithmetic average emission concentration shall be calculated using EPA Reference Method 19 of Appendix A of 40 CFR Part 60, section 12.4.1.

(iv) At a minimum, valid PM CEMS hourly averages shall be obtained for 75 percent of all operating hours on a 30-day rolling average basis. Beginning on January 1, 2012, valid PM CEMS hourly averages shall be obtained for a minimum of 90 percent of all operating hours on a 30-day rolling average basis. At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(v) The 1-hour arithmetic averages of PM CEMS data shall be expressed in pounds per million Btu and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of Subpart A of 40 CFR Part 60.

(vi) All valid PM CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph iv above are not met.

(vii) When PM emissions data are not obtained because of PM CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the WNCRAQA or EPA Reference Method 19 of Appendix A of 40 CFR Part 60 to provide, as necessary, valid emissions data for a minimum of 90 percent (only 75 percent is required prior to January 1, 2012) of all operating hours per 30-day rolling average.

(4) **Reporting** [WNCRAQA Code 4.0536(b), 4.0614, & 17.0508(f)]
The results of any stack test required in Section 2.1(F)(2) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. All instances of deviations from the requirements of this permit must be clearly identified.

(a) **COMS Monitoring Option**
When using this option, the results of any stack test required in Section 2.1(F)(3) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. In addition, the Permittee shall submit the following reports as required under §64.9 of 40 CFR Part 64 no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September:

(i) Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; and

(ii) Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable).

(b) **PM CEMS Monitoring Option**
When using this option, the Permittee shall submit excess emissions and monitoring system performance reports for PM no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. The report shall include, at a minimum, the information required in 40 CFR 60.7(c) and shall include all 24-hour daily (block) average excess emissions (pounds per million Btu) using the CEMS outlet data, including periods exempted during startup, shutdown, and malfunction. Within 15 days of a written request, report all PM CEMS hourly averages (in written or electronic form) to show, at a minimum, that valid PM CEMS hourly averages have been obtained for 90 percent

(only 75 percent is required prior to January 1, 2012) of all operating hours on a 30-day rolling average basis.

(G) **WNCRAQA CODE 4.0535 - EXCESS EMISSIONS REPORTING AND MALFUNCTIONS**

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0535(d) & 17.0508(b)]
All electric utility boiler units shall have a malfunction abatement plan approved by the Director as specified in WNCRAQA Code 4.0535(d).

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0535(d) & 17.0508(f)]
The Permittee shall maintain logs to show that the operation and maintenance sections of the malfunction abatement plan are implemented. These logs (written or electronic format) shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(H) **WNCRAQA CODE 4.1111 - MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT - 40 CFR PART 63 SUBPART UUUUU)**

The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with WNCRAQA Code 4 .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40CFR Part 63, Subpart UUUUU.

(I) **WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (RECYCLED OIL SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)**

(1) **Emission Limitation/Standard** [WNCRAQA Code 17.0317(a)(8), 17.0700, & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, any recycled oil combusted in either Unit 1 Boiler or Unit 2 Boiler to replace No. 2 fuel oil for light-off and flame stabilization shall be shown equivalent to unadulterated fossil fuel prior to combustion by meeting the following criteria:

Constituent / Property	Allowable Level
Arsenic	1 ppm maximum
Cadmium	2 ppm maximum
Chromium	5 ppm maximum
Lead	100 ppm maximum
Total Halogens	1,000 ppm maximum
Flash Point	100°F minimum
Sulfur	1.0% maximum
Ash	1.0% maximum

The Permittee is responsible for ensuring that the recycled oil meets the approved criteria for unadulterated fuel. The Permittee is held responsible for any discrepancies discovered by WNCRAQA as a result of any sampling and analysis of the oil.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 17.0317(b) & 4.0605]
The Permittee shall maintain at the facility for a minimum of three years, and shall make available to an authorized WNCRAQA representative upon request, accurate records of the following:

(a) The actual amount of recycled oil delivered to, and combusted at the facility on an annual basis; and

(b) Each load of recycled fuel oil received shall include the following:

(i) A delivery manifest document clearly showing the shipment content and amount, its

place and date of loading, and place and date of destination;

(ii) A batch specific analytical report that contains an analysis for all constituents/properties listed above. Analytical results of the samples representative of the recycled oil shipment from the vendor shall be no more than one year old when received;

(iii) Batch signature information consisting of the following: a batch number, tank identification with batch volume of recycled oil, date and time the batch completed treatment, and volume(s) delivered; and

(iv) A certification indicating that the recycled fuel oil does not contain detectable PCBs (< 2 ppm).

WNCRAQA reserves the right to require additional monitoring and/or recordkeeping of the recycled oil without notice.

(3) **Reporting** [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall submit a summary report of the total recycled oil combusted and the results of the analytical testing by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

(J) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (WASTE OILS / SOLVENTS SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) **Emission Limitation/Standard** [WNCRAQA Code 17.0317(a)(8), 17.0700 & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, waste oils (either petroleum-derived or synthetic, used as a lubricant, hydraulic fluid, metal working fluid, insulating fluid, or coolant) and solvents (including acetone, methanol, methyl ethyl ketone, toluene, varsol, xylene, and waste solvent mixtures containing less than 10 percent (by volume) of any non-halogenated solvent not listed above as referenced by 40 CFR 261.31) shall only be combusted in Unit 1 Boiler as a waste disposal method according to the following conditions and stipulations:

(a) Only those waste oils / solvents generated at the Asheville, Marshall, or Walters sites may be combusted;

(b) No more than 100 gallons of plant employees used oil may be combusted in any calendar year;

(c) Total halogen content shall not exceed 1,000 micrograms per gram (parts per million);

(d) Total lead content shall not exceed 250 micrograms per gram (parts per million);

(e) Total PCB content of any insulating fluid or coolant shall not exceed 49 parts per million;

(f) Waste oils / solvents shall not be combusted during periods of startup, shutdown, or malfunction; and

(g) Total waste oils / solvents feed rate shall not exceed 300 gallons per hour and 10,000 gallons per calendar year.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall conduct monitoring/recordkeeping according to the following:

(a) A daily record of the amount of waste oils / solvents combusted shall be maintained onsite and made available to an authorized WNCRAQA representative upon request; and

(b) Chemical analysis conducted on waste oils / solvents combusted shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(3) Reporting [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall submit a summary report of the amount of waste oils / solvents combusted by January 30 of each calendar year for the preceding twelve-month period between January and December.

(K) WNCRAQA CODE 17.0700 - TOXIC AIR POLLUTANT PROCEDURES (BOILER TUBE CLEANING SOLUTION SPECIFICATIONS - LOCAL-ENFORCEABLE ONLY)

(1) Emission Limitation/Standard [WNCRAQA Code 17.0317(a)(8), 17.0700 & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 17.0700 for sources of toxic air pollutants, any boiler tube cleaning solution (such as ammonia / citric acid , ammoniated EDTA, ammonium persulfate, or similar materials upon request and approval of the Director) evaporated in either Unit 1 Boiler or Unit 2 Boiler shall be limited to a 145-gallon per minute maximum injection rate.

(2) Monitoring/Recordkeeping [WNCRAQA Code 17.0317(b) & 17.0508(f)]
A daily record of the amount of boiler tube cleaning solution injected in each boiler shall be maintained onsite and made available to an authorized WNCRAQA representative upon request.

(3) Reporting [WNCRAQA Code 17.0317(b) & 17.0508(f)]
The Permittee shall notify WNCRAQA at least five days prior to boiler tube cleaning solution evaporation.

(L) WNCRAQA CODE 4.2500 - MERCURY RULES FOR ELECTRIC GENERATORS - LOCAL-ENFORCEABLE ONLY

Note: Sections 4.2509 and .2511 are local-enforceable. All other sections of 4.2500 will not be enforced at this time.

(1) Emission Limitation/Standard [WNCRAQA Code 4.2503(a) & 40 CFR 60.4106(f)]
Emissions of particulate matter from each utility boiler unit shall not exceed the following allocations:

(a) Unit 1 Boiler - 2010 - 2017: 621 ounces
- 2018 and later: 250 ounces; and

(b) Unit 2 Boiler - 2010 - 2017: 575 ounces
- 2018 and later: 232 ounces.

(2) Monitoring/Recordkeeping/Reporting [WNCRAQA Code 4.2503, .2505(a) and .2511]
(a) The emissions of mercury of an Hg budget source shall not exceed the number of allowances that it has in its compliance account according to Rule .2510 of this Section.

(b) The emissions measurements recorded and reported according to 40 CFR 60.4170 through 60.4176 shall be used to determine compliance by each source identified in this rule with its emissions limitation according to 40 CFR 60.4106(c).

(c) The provisions of 40 CFR 60.4106(d) shall be used for excess emissions.

(d) The owner or operator of a Hg budget unit covered under this Section shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 60.4106(b) and (e) and in

40 CFR 60.4170 through 60.4176.

(e) The Permittee shall comply with all applicable requirements of 15A NCAC 2D .2511 "Mercury Emission Limits."

(M) WNCRAQA CODE 4.0530(u) - USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

(1) Use of Projected Actual Emissions [WNCRAQA Code 4.0530(u)]
Pursuant to WNCRAQA Code 4.0530(u), the Permittee relied on the use of projected actual emissions to demonstrate that the replacement of the economizer inlet header, upper and lower tube bundles, and intermediate header at the reheat bypass wall in Unit 1 Boiler would not result in a significant emissions increase. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, recordkeeping, and reporting requirements in Sections 2.1(M)(2) through (4) below.

(2) Testing [WNCRAQA Code 4.2601]
If emissions testing is required, the testing shall be performed in accordance General Condition JJ.

(3) Recordkeeping [WNCRAQA Code 4.0530(u)]
The Permittee shall maintain records of actual emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide, volatile organic compounds, particulate matter (PM), particulate matter having a nominal aerodynamic diameter of 10 micrometers or less (PM_{10}), particulate matter having a nominal aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), sulfuric acid (H_2SO_4), and greenhouse gases (GHG) in tons per year on a calendar year basis for each of the five years following the resumption of regular operations after the replacements described in Section 2.1(M)(1) are made (but not including the initial shakedown period, not to exceed 180 days).

(4) Reporting [WNCRAQA Code 4.0530(u)]
The results of any stack test required in Section 2.1(M)(2) above shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. All instances of deviations from the requirements of this permit must be clearly identified. The Permittee shall submit a report of the emissions of all pollutants listed in Section 2.1(M)(3) to the Director within 60 days after the end of each calendar year during which the records in Section 2.1(M)(3) must be generated.

2.2 - Emission Source ID Unit 3 IC Turbine & Unit 4 IC Turbine

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Sulfur dioxide	40 tons SO_2 per consecutive 12-month period; 0.05 percent by weight sulfur content of No. 2 fuel oil;	WNCRAQA Code 4.0530
	0.8 percent by weight sulfur content of all fuels	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart GG)
Particulate matter	25 tons PM per consecutive 12-month period; 15 tons PM_{10} per consecutive 12-month period;	WNCRAQA Code 4.0530

Regulated Pollutant	Limits / Standards	Applicable Regulation
Nitrogen oxides	0.0103 percent (103 ppm) by volume at 15 percent oxygen and on a dry basis for natural gas combustion; 0.0101 percent (101 ppm) by volume at 15 percent oxygen and on a dry basis for No. 2 fuel oil combustion	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart GG)
	13,725 tons NO_X per consecutive 12-month period	WNCRAQA Code 4.0530
	Clean Air Interstate Rule (CAIR) requirements (see Section 3)	WNCRAQA Code 4.2400
Visible emissions	20 percent opacity	WNCRAQA Code 4.0521

(A) WNCRAQA CODE 4.0530 - PREVENTION OF SIGNIFICANT DETERIORATION (SULFUR DIOXIDE AND PARTICULATE MATTER REQUIREMENTS)

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0530(g), 17.0317(a)(1), & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 4.0530(g) for major sources and major modifications, the following limitations shall apply:

(a) Both sources shall emit no more than 40 tons of sulfur dioxide (SO_2) per consecutive 12-month period;

(b) The No. 2 fuel oil combusted in both sources shall not exceed 0.05 percent by weight sulfur content; and

(c) Both sources shall emit no more than 25 tons of particulate matter (PM) per consecutive 12-month period.

(d) Both sources shall emit no more than 15 tons of particulate matter having a nominal aerodynamic diameter of 10 micrometers or less (PM_{10}) per consecutive 12-month period.

(2) **Testing** [WNCRAQA Code 4.2600]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2600 and General Condition JJ. If the results of this test are above the limit given in Section 2.2(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(3) **Monitoring** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
To assure compliance with the limitations given in Section 2.2(A)(1) above, the Permittee shall monitor the following:

(a) The hourly fuel-specific heat input measured in accordance with 40 CFR Part 75;

(b) The sulfur content of No. 2 fuel oil combusted in each combustion turbine as specified in §60.334(i) of 40 CFR Part 60, using the test methods and procedures in §60.335(b)(10) and (11);

(c) The calculated monthly SO_2, PM and PM_{10} emissions based on the hourly fuel-specific heat input monitored per Section 2.2(A)(3)(a), the fuel sulfur content monitored per Section 2.2(A)(3)(b), and the PM and PM_{10} emission factors established by the May 6-9, 2008 emissions testing; and

(d) The annual SO_2, PM and PM_{10} emissions for each consecutive 12-month period.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
Records (written or electronic format) of the above monitoring shall be maintained onsite and made available to an authorized WNCRAQA representative upon request. The records shall include the following:

(a) The date and time of the required monitoring; and

(b) The input parameters and results of the required monitoring noting whether or not noncompliant conditions were observed.

(5) **Reporting** [WNCRAQA Code 17.0508(f)]
The Permittee shall submit a summary report of monitoring and recordkeeping activities, including the total SO_2, PM and PM_{10} emissions for each month and each consecutive 12-month period in the reporting period, postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(B) WNCRAQA CODE 4.0524 - NEW SOURCE PERFORMANCE STANDARDS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0524(a) & 17.0508(b)]
As specified in §60.332(a)(1) of 40 CFR Part 60, emissions of nitrogen oxides from each source shall not exceed 0.0103 percent (103 ppm) by volume at 15 percent oxygen and on a dry basis for natural gas combustion and 0.0101 percent (101 ppm) by volume at 15 percent oxygen and on a dry basis for No. 2 fuel oil combustion. As specified in §60.333(b), fuel combusted in each source shall not contain sulfur in excess of 0.8 percent by weight.

(2) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0524(a) and 17.0508(f)]
To assure compliance with the limitations given in Section 2.2(B)(1) above, the Permittee shall:

(a) Monitor sulfur content of the No. 2 fuel oil being combusted in each combustion turbine according to §60.334(h) and using the test methods and procedures in §60.334(h)(1) and §60.335 (b)(10-11); and

(b) As required by §60.334(a), using the procedures in §60.335, for each combustion turbine, install and operate a continuous monitoring system to monitor and record fuel consumption and the ratio of water-to-fuel being combusted. The monitoring device shall be calibrated and maintained in accordance with the procedures in §60.334(g).

(3) **Reporting** [WNCRAQA Code 4.0524(a) & 17.0508(f)]
The Permittee shall conduct reporting according to the following:

(a) For the purpose of reports required under §60.7(c), periods of excess emissions for sulfur dioxide shall be reported for any daily period during which the sulfur content of the fuel being combusted exceeds 0.05 percent by weight based on a 12-month rolling average;

(b) For the purpose of reports required under §60.7(c), periods of excess emissions for nitrogen oxides shall be reported for any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with §60.332 by the performance test required in §60.8; and

(c) The Permittee shall submit in writing the sulfur content and of the No. 2 fuel oil combusted in the combustion turbines by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

All instances of deviations from the requirements of this permit must be clearly identified.

(C) WNCRAQA CODE 4.0530 - PREVENTION OF SIGNIFICANT DETERIORATION (NITROGEN OXIDES REQUIREMENTS)

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0530(g), 17.0317(a)(1), & 17.0508(b)]
In order to preclude applicability of WNCRAQA Code 4.0530(g) for major sources and major modifications, both sources, in combination with Unit 1 Boiler and Unit 2 Boiler, shall emit no more than 13,725 tons of nitrogen oxides per consecutive 12-month period.

(2) **Testing** [WNCRAQA Code 4.2612]
No testing is required at this time; however, WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2612 and General Condition JJ. If the results of this test are above the limit given in Section 2.2(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(3) **Monitoring/Recordkeeping** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
To assure compliance with the limitation given in Section 2.2(C)(1) above, the Permittee shall determine nitrogen oxide emissions in pounds per hour using a CEMS meeting the requirements of 40 CFR Part 75, except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with the nitrogen oxides emission limitation shall be determined monthly by summing hourly CEMS values over a consecutive 12-month period. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any consecutive 12-month sum exceeds the limitation given in Section 2.2(C)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0530.

(4) **Reporting** [WNCRAQA Code 4.0605(b), 17.0317(b), & 17.0508(f)]
The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

(D) WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0521(d) & 17.0508(b)]
Visible emissions from these sources shall not exceed 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

(2) **Testing** [WNCRAQA Code 4.2610]
If emissions testing is required, the testing shall be performed in accordance with WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in

Section 2.2(D)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521.

(3) **Monitoring** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
To assure compliance with the limitation given in Section 2.2(D)(1) above, the Permittee shall perform a Method 9 test for 1 hour in accordance with WNCRAQA Code 4.2610 prior to exceeding 1,000 hours of operation while combusting No. 2 fuel oil in each of these sources. This monitoring protocol shall be repeated prior to each 1,000-hour period of operation while combusting No. 2 fuel oil. No monitoring is required while burning natural gas in these sources.

(4) **Recordkeeping** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
Records (written or electronic format) of the above monitoring shall be maintained onsite and made available to an authorized WNCRAQA representative upon request. The records shall include the following:

(a) The date and time of each recorded action;

(b) The results of each observation and/or test noting the source with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and

(c) The results of any corrective actions performed.

(5) **Reporting** [WNCRAQA Code 4.0605(b) & 17.0508(f)]
The permittee shall submit the results of the Method 9 test within 30 days of completion of the test. All instances of deviations from the requirements of this permit must be clearly identified.

2.3 - Emission Source ID Limestone Crusher, Limestone Conveyor 1, Limestone Conveyor 2, Limestone Conveyor 3, Limestone Bin 1, & Limestone Bin 2

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Particulate matter	0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot)	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart OOO)
	Local-enforceable only: As defined in specific conditions	WNCRAQA Code 4.0540
Visible emissions	7 percent opacity	WNCRAQA Code 4.0524 (40 CFR Part 60, Subpart OOO)

(A) WNCRAQA CODE 4.0524 - NEW SOURCE PERFORMANCE STANDARDS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.0524(a) & 17.0508(b)]
As specified in §60.672(a) of 40 CFR Part 60, emissions of particulate matter from these sources shall not exceed 0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot) and visible emissions from these sources shall not exceed 7 percent opacity when averaged over a six-minute period.

(2) **Testing** [WNCRAQA Code 4.0524(a)]
Within 60 days after achieving the maximum production rate at which these sources will be operated, but not later than 180 days after initial startup of these sources, an initial performance

test shall be conducted. Testing shall be performed in accordance with §60.675. If the results of this testing are above the limits given in Section 2.4(A)(1) above, the Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0524.

(3) Recordkeeping/Reporting [WNCRAQA Code 4.0524(a) & 17.0508(f)]
The Permittee shall comply with the recordkeeping and reporting requirements of this standard as specified in §60.676(f), (h), and (i). All instances of deviations from the requirements of this permit must be clearly identified.

(B) WNCRAQA CODE 4.0540 - PARTICULATES FROM FUGITIVE NON-PROCESS DUST EMISSION SOURCES

(1) Emission Limitation/Standard [WNCRAQA Code 4.0540 & 17.0508(b)]
The Permittee shall not cause, allow, or permit particulate matter to become airborne in the ambient air as a result of storage, transportation, or handling of materials associated with non-process crushed stone operations without taking reasonable precautions for the prevention of such particulate matter from becoming airborne.

(2) Monitoring/Recordkeeping/Reporting [WNCRAQA Code 17.0508(f)]
No monitoring/recordkeeping/reporting is required for particulate matter emissions from fugitive sources.

2.4 - Emission Source ID Sorbent 1, Sorbent 2

The following table provides a summary of limits and standards for the emission sources referenced above:

Regulated Pollutant	Limits / Standards	Applicable Regulation
Particulate matter	$E = 4.10(P)^{0.67}$, where E = allowable emission rate in pounds per hour and P = process weight rate in tons per hour	WNCRAQA Code 4.0515
Visible emissions	20 percent opacity	WNCRAQA Code 4.0521

(A) WNCRAQA CODE 4.0515 - PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

(1) Emission Limitation/Standard [WNCRAQA Code 4.0515 & 17.0508(b)]
Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour.

(2) Testing [WNCRAQA Code 4.2609]
No testing is required at this time; however, the WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with the WNCRAQA Code 4.2609 and General Condition JJ. If the results of this test are above the limit given in Section 2.3(A)(1) above, the Permittee shall be deemed in noncompliance with the WNCRAQA Code 4.0515.

(3) Monitoring/Recordkeeping [WNCRAQA Code 17.0508(f)]

(a) Particulate matter emissions from these sources shall be controlled by the dust collector. To ensure that optimum control efficiency is maintained, the Permittee shall perform inspections and maintenance as recommended by the manufacturer implemented in the plant's Work Management System. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement must include the following:

(i) An annual internal inspection of the dust collector's structural integrity; and

(ii) A monthly visual inspection of the system ductwork, and material collection unit for leaks.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0515 if the ductwork and dust collector are not inspected and maintained.

(b) The results of inspection and maintenance shall be maintained in a log book (written or electronic form) on site and made available to an authorized representative upon request. The log book shall record the following:

(i) The date and time of actions recorded;

(ii) The results of each inspection;

(iii) The results of any maintenance performed on the dust collector; and:

(iv) Any variance from manufacturer's recommendations, and corrections made.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0515 if these records are not maintained.

(4) <u>Reporting</u> [WNCRAQA Code 17.0508(f)

(a) The Permittee shall submit the results of any maintenance performed on the dust collector within 30 days of a written request by the WNCRAQA.

(b) The Permittee shall submit a summary report of monitoring and recordkeeping activities by January 30 and July 30 of each calendar year for the preceding six-month period. All instances of deviations from the requirements of this permit must be clearly identified.

(B) WNCRAQA CODE 4.0521 - CONTROL OF VISIBLE EMISSIONS

(1) <u>Emission Limitation/Standard</u> [WNCRAQA Code 4.0521 & 17.0508(b)]
Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

(2) <u>Testing</u> [WNCRAQA Code 4.2610]
No testing is required at this time; however, the WNCRAQA reserves the right to require appropriate testing at a later date. If emissions testing is required, the testing shall be performed in accordance with the WNCRAQA Code 4.2610 and General Condition JJ. If the results of this test are above the limit given in Section 2.4(A)(1) above, the Permittee shall be deemed in noncompliance with the WNCRAQA Code 4.0521.

(3) <u>Monitoring</u> [WNCRAQA Code 17.0508(f)]

To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following start-up of the sources. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) immediately shutdown the source and repair the malfunction, (b) be deemed to be in noncompliance with WNCRAQA Code 4.0521 or (c) demonstrate that the percent opacity from the emission points of the emission sources in accordance with WNCRAQA Code 4.2601 for 30 minutes is below the limit given in Section 2.1 2.4(B)(1) above. If the demonstration in (c) above cannot be made, the Permittee shall be deemed to be in noncompliance with WNCRAQA Code 4.0521.

(4) Recordkeeping [WNCRAQA Code 17.0508(f)]
The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

(a) The date and time of each recorded action;

(b) The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and

(c) The results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with WNCRAQA Code 4.0521 if these records are not maintained.

(5) Reporting [WNCRAQA Code 17.0508(f)
The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.5 - Emission Source ID Emergency Generator 1, Fire Pump Engine 1

(A) WNCRAQA CODE 4.1111 - MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT - 40 CFR PART 63 SUBPART ZZZZ)

(1) Compliance Date [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6595(a)(1)]
These sources must be in compliance with all applicable requirements of 40 CFR Part Subpart ZZZZ - Reciprocating Internal Combustion Engines (RICE) by May 3, 2013.

(2) Emission and Operating Limitations [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6602]
The Permittee must perform the following work practice requirements:

(a) Change oil and filter every 500 hours of operation or annually, whichever comes first;

(b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and

(c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the above schedule, or if performing the work practice on the above schedule would otherwise pose an unacceptable risk under Federal,

State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement. Sources can petition the EPA Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

(3) **General Requirements** [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6625(e)]

(a) The Permittee must be in compliance with the applicable emission limitations and operating limitations at all times. (Note: These sources do not have emissions limitation.)

(b) At all times, the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved.

(4) **Monitoring, Installation, Collection, Operation, and Maintenance Requirements** [WNCRAQA Code 4.1111 & 17.0508(f) & 40 CFR 63. 6625]

(a) Per §63.6625(e), the Permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions, or the Permittee shall develop its own maintenance plan, which must provide, to the extent practicable, for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(b) Per §63.6625(f), the Permittee must install a non-resettable hour meter if one is not already installed.

(c) Per §63.6625(h), the Permittee shall minimize the engine's time spent at idle during startup time and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time, the non-startup emission limitations (if any) apply.

(5) **Demonstrating Compliance with Emission and Operating Limitations** [WNCRAQA Code 4.1111 & 17.0508(b) & 40 CFR 63. 6640]

(a) Per §63.6640(a), the Permittee must demonstrate continuous compliance with each emission limitation and operating limitation according to Condition 2.4(4)(a), above.

(b) Per §63.6640(b) the Permittee must report each instance in which each applicable emission limitation or operating limitation was not met. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in § 63.6650.

(c) Per §63.6640(e) the Permittee must also report each instance in which the applicable requirements in the General Provisions, as indicated in §63.6665 and shown in Table 8 to this subpart, were not met.

(d) Per §63.6640(f) the Permittee must operate the engine according to the conditions described below:

(i) Any operation other than emergency operation, maintenance and testing, and operation in nonemergency situations for 50 hours per year, as permitted in this section, is prohibited;

(ii) There is no time limit on the use of emergency stationary RICE in emergency situations.

(iii) The emergency stationary RICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the EPA Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iv) The emergency stationary RICE may be operated up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for nonemergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.

(6) <u>Recordkeeping</u> [WNCRAQA Code 4.1111 & 17.0508(f) & 40 CFR 63. 6655 & .6660]

(a) The Permittee shall keep records that show that management practices that are required are being met. These records must include, at a minimum:

(i) Oil and filter change dates and corresponding hour on the hour meter;

(ii) Inspection and replacement dates for air cleaners, hoses, and belts; and

(iii) Records of other emission-related repairs and maintenance performed.

(b) Each record must be kept readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

SECTION 3 - CLEAN AIR INTERSTATE RULE (CAIR) PERMIT REQUIREMENTS

(A) WNCRAQA CODE 4. 2403: NITROGEN OXIDE EMISSIONS

(1) <u>Emission Limitation/Standard</u> [WNCRAQA Code 4.2403]
The total nitrogen oxide (NO_X) emissions from Duke Energy Progress, Inc.'s Asheville Steam Electric Plant shall not exceed, except as provided in WNCRAQA Code 4.2408:

(a) 1,789 tons annually for 2015 and later.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR NO_X sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2403(e)]
The owner or operator of any unit or source covered under WNCRAQA Code 4.2403 shall be subject to the provisions of 40 CFR 96.106(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2403 & 4.2407(a)(1)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.106(b) and (e), and 40 CFR 96 Subpart HH for each CAIR NO_X unit. The emissions of nitrogen oxides of a CAIR NO_X source shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HH shall be used to determine compliance by each CAIR NO_X source with its emissions limitation according to 40 CFR 96.106(c) including 96.106(c)(5) and (6). The provisions of 40 CFR 96.106(d) shall be used for excess emissions.

(B) WNCRAQA CODE 4.2405 - NITROGEN OXIDE EMISSIONS DURING OZONE SEASON

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.2405(a)(1) & (b)]
Ozone season NO_X emissions from Duke Energy Progress, Inc.'s Asheville Steam Electric Plant shall not exceed, except as provided in WNCRAQA Code 4.2408:

(a) 765 tons during the ozone season for 2015 and later.

The ozone season shall be defined as the period of time extending from May 1 to September 30 of each calendar year.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR NO_X Ozone Season sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2405(g)]
The owner or operator of any unit or source covered under WNCRAQA Code 4.2405 shall be subject to the provisions of 40 CFR 96.306(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2405 & 4.2407(a)(3)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.306(b) and (e), and 40 CFR 96 Subpart HHHH for each CAIR Ozone Season NO_X unit. The nitrogen oxide ozone season emissions of a CAIR NO_X Ozone Season source shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NO_X Ozone Season source with its emissions limitation according to 40 CFR 96.306(c) including 96.306(c)(5) and (6). The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

(C) WNCRAQA CODE 4.2404 - SULFUR DIOXIDE EMISSIONS

(1) **Emission Limitation/Standard** [WNCRAQA Code 4.2404(b)]
The annual allocation of sulfur dioxide allowances shall be determined by EPA. The allocations for CAIR SO_2 units are listed in the table below (these allocations are from 40 CFR 73.10):
(a) Unit 1 - 6,633 for 2010 and later; and

(b) Unit 2 - 5,271 for 2010 and later.

(2) **Trading** [WNCRAQA Code 4.2408]
The affected CAIR SO_2 sources shall comply with the requirements of WNCRAQA Code 4.2400 using the trading program and banking set out in 40 CFR Part 96.

(3) **Liability** [WNCRAQA Code 4.2404(f)]
The owner or operator of any unit or source covered under 15A NCAC 2D .2404 shall be subject to the provisions of 40 CFR 96.206(f).

(4) **Monitoring/Recordkeeping/Reporting** [WNCRAQA Code 4.2404 & 4.2407(a)(2)]
The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.206(b) and (e), and 40 CFR 96 Subpart HHH for each CAIR SO_2 unit. The emissions of sulfur dioxides of a source described in Section 3(C)(1) above shall not exceed the number of allowances that it has in its compliance account established and administered under WNCRAQA Code 4.2408. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHH shall be used to determine compliance by each CAIR SO_2 source with its emissions limitation according to 40 CFR 96.206(c) including 96.206(c)(5) and (6). The provisions of 40 CFR 96.206(d) shall be used for excess emissions.

(D) **CAIR PERMIT APPLICATION**
The permit application submitted for this facility, as approved by WNCRAQA, is part of this permit. The owner and operator of these CAIR NO_X and SO_2 sources must comply with the standard requirements and special provisions set forth in the following attached application:

CAIR Permit Application dated June 23, 2014.

SECTION 4 - ACID RAIN PROGRAM REQUIREMENTS

ORIS code: **2706**
Effective: **January 1, 2015 through December 31, 2019**

(A) **Statement of Basis**
Statutory and Regulatory Authorities: In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina, as amended, and Titles IV and V of the Clean Air Act, WNCRAQA issues this permit pursuant to WNCRAQA Code 17.0400 and 17.0500, and other applicable laws.

(B) **SO_2 Allowance Allocations and NO_X Reduction Requirements for Each Affected Unit**
The following table provides a summary of the Title IV applicable requirements for the emission source(s) at this facility:

Emission Source ID	Reduction Requirement	2015	2016	2017	2018	2019
Unit 1 Boiler	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	6,633*	6,633*	6,633*	6,633*	6,633*
Unit 1 Boiler	NO_X Limit	WNCRAQA approves a standard NO_X compliance plan for this unit. The compliance plan is effective for calendar year 2015 through calendar year 2019. Under the compliance plan, this unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR part 75, shall not exceed the applicable				

Emission Source ID	Reduction Requirement	2015	2016	2017	2018	2019
		emission limitation, under 40 CFR 76.7(a)(2) of 0.46 lb/MMBtu for dry bottom wall-fired boilers. In addition to the described NO_X compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.				
Unit 2 Boiler	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	5,271*	5,271*	5,271*	5,271*	5,271*
Unit 2 Boiler	NO_X Limit	WNCRAQA approves a standard NO_X compliance plan for this unit. The compliance plan is effective for calendar year 2015 through calendar year 2019. Under the compliance plan, this unit's annual average NOx emission rate for each year, determined in accordance with 40 CFR part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.7(a)(2) of 0.46 lb/MMBtu for dry bottom wall-fired boilers. In addition to the described NO_X compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.				
Unit 3 IC Turbine and Unit 4 IC Turbine	SO_2 Allowances under Table 2, 3, or 4 of 40 CFR Part 73	NA**	NA**	NA**	NA**	NA**
	NO_X Limit	NA***				

*The number of allowances allocated to Phase II-affected units by U.S. EPA may change under a future revision to 40 CFR Part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

**SO_2 allowances are not allocated by U.S. EPA for new units under 40 CFR Part 72.

***Does not apply for gas or oil-fired units.

(C) **Comments, Notes, and Justifications**

None.

(D) **Permit Applications (Attached)**

The permit applications submitted for this facility, as approved by WNCRAQA, are part of this permit. The owners and operators of these Phase II acid rain sources must comply with the standard requirements and special provisions set forth in the following attached applications:

Acid Rain Permit Application dated June 23, 2014; and
Acid Rain NO_X Compliance Plan dated March 23, 2015.

SECTION 5 - GENERAL CONDITIONS AND LIMITATIONS

This section describes terms and conditions applicable to this Title V facility.

(A) General Provisions [NCGS 143-215 and WNCRAQA Code 17.0508(i)(16)]

(1) Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in WNCRAQA Code Chapters 4 and 17.

(2) The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by WNCRAQA.

(3) This permit is not a waiver of or approval of any other permits that may be required for other aspects of the facility which are not addressed in this permit.

(4) This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of local laws or rules, unless specifically authorized by an order from WNCRAQA.

(5) Except as identified as local-only requirements in this permit, all terms and conditions contained herein shall be enforceable by WNCRAQA, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.

(6) Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by WNCRAQA, unless the source is exempted by rule. WNCRAQA may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

(B) Permit Availability [WNCRAQA Code 17.0507(k) and 17.0508 (i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of WNCRAQA upon request.

(C) Severability Clause [WNCRAQA Code 17.0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

(D) Submissions [WNCRAQA Code 17.0507(e) and 17.0508(i)(16)]
Except as otherwise specified herein, one copy of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to WNCRAQA.

(E) Duty to Comply [WNCRAQA Code 17.0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as local-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

(F) Circumvention - LOCAL ENFORCEABLE ONLY
The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

(G) Permit Modifications

(1) Administrative Permit Amendments [WNCRAQA Code 17.0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with WNCRAQA Code 17.0514.

(2) Transfer of Ownership or Operation [WNCRAQA Code 17.0524 and 17.0505]
The Permittee shall submit an application for an ownership change in accordance with WNCRAQA Code 17.0524 and 17.0505.

(3) Minor Permit Modifications [WNCRAQA Code 17.0515]
The Permittee shall submit an application for a minor permit modification in accordance with WNCRAQA Code 17.0515.

(4) Significant Permit Modifications [WNCRAQA Code 17.0516]
The Permittee shall submit an application for a significant permit modification in accordance with WNCRAQA Code 17.0516.

(5) Reopening for Cause [WNCRAQA Code 17.0517]
The Permittee shall submit an application for reopening for cause in accordance with WNCRAQA Code 17.0517.

(H) Changes Not Requiring Permit Modifications

(1) Reporting Requirements
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the WNCRAQA:

(a) Changes in the information submitted in the application;

(b) Changes that modify equipment or processes; or

(c) Changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the WNCRAQA to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

(2) Section 502(b)(10) Changes [WNCRAQA Code 17.0523(a)]

(a) "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

(b) The Permittee may make Section 502(b)(10) changes without having the permit revised if:

(i) The changes are not a modification under Title I of the Federal Clean Air Act;

(ii) The changes do not cause the allowable emissions under the permit to be exceeded;

(iii) The Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and

(iv) The Permittee shall attach the notice to the relevant permit.

(c) The written notification shall include:

(i) A description of the change;

(ii) The date on which the change will occur;

(iii) Any change in emissions; and

(iv) Any permit term or condition that is no longer applicable as a result of the change.

(d) Section 502(b)(10) changes shall be made in the permit the next time the permit is revised or renewed, whichever comes first.

(3) Off Permit Changes [WNCRAQA Code 17.0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:

(a) The change affects only insignificant activities and the activities remain insignificant after the change; or

(b) The change is not covered under any applicable requirement.

(4) Emissions Trading [WNCRAQA Code 17.0523(c)]
To the extent that emissions trading is allowed under WNCRAQA Code Chapter 4, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to WNCRAQA Code 17.0523(c).

(I.A) <u>Reporting Requirements for Excess Emissions and Permit Deviations</u> [WNCRAQA Code 4.0535(f) and 17.0508(f)(2)]

"<u>Excess Emissions</u>" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Chapter 4; or by a permit condition; or that exceeds an emission limit established in a permit issued under WNCRAQA Code 17.0700. *(Note: Definitions of excess emissions under 4.1110 and 4.1111 shall apply where defined by rule.)*

"<u>Deviations</u>" - for the purpose of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions, as well as excess emissions as defined above lasting less than four hours.

<u>Excess Emissions</u>

(1) If a source is required to report excess emissions under NSPS (WNCRAQA Code 4.0524), NESHAPs (WNCRAQA Code 4.1110 or 4.1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.

(2) If the source is not subject to NSPS (WNCRAQA Code 4.0524), NESHAPs (WNCRAQA Code 4.1110 or 4.1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with WNCRAQA Code 4.0535 as follows:

(a) Pursuant to WNCRAQA Code 4.0535, if excess emissions last for more than four hours

resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:

(i) Notify the Director of any such occurrence by 9:00 a.m. Eastern Time of the Agency's next business day of becoming aware of the occurrence and provide:

- Name and location of the facility;
- Nature and cause of the malfunction or breakdown;
- Time when the malfunction or breakdown is first observed;
- Expected duration; and
- Estimated rate of emissions;

(ii) Notify the Director immediately when corrective measures have been accomplished; and

(iii) Submit to the Director within 15 days a written report as described in WNCRAQA Code 4.0535(f)(3);

Permit Deviations

(3) Pursuant to WNCRAQA Code 17.0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:

(a) Notify the Director of all other deviations from permit requirements not covered under WNCRAQA Code 4.0535 quarterly. A written report to the Director shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

(I.B) **Other Requirements under WNCRAQA Code 4.0535**
The Permittee shall comply with all other applicable requirements contained in WNCRAQA Code 4.0535, including 4.0535(c), as follows:

(1) Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in WNCRAQA Code 4.0535(c)(1) through (7).

(2) WNCRAQA Code 4.0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

(J) **Emergency Provisions** [40 CFR 70.6(g)]
The Permittee shall be subject to the following provisions with respect to emergencies:

(1) An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

(2) An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in (3) below are met.

(3) The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:

(a) An emergency occurred and the Permittee can identify the cause(s) of the emergency;

(b) The permitted facility was at the time being properly operated;

(c) During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and

(d) The Permittee submitted notice of the emergency to WNCRAQA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.

(4) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(5) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

(K) **Permit Renewal** [WNCRAQA Code 17.0508(e) and 17.0513(b)]
This permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with WNCRAQA Code 17.0512(b)(1), this WNCRAQA Code 17.0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under WNCRAQA Code 17.0400 terminates the facility's right to operate unless a complete WNCRAQA Code 17.0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 2Q .0400 requirements. In either of these events, all terms and conditions of this permit shall remain in effect until the renewal permit has been issued or denied.

(L) **Need to Halt or Reduce Activity Not a Defense** [WNCRAQA Code 17.0508(i)(4)]
It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(M) **Duty to Provide Information (submittal of information)** [WNCRAQA Code 17.0508(i)(9)]

(1) The Permittee shall furnish to WNCRAQA, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.

(2) The Permittee shall furnish WNCRAQA copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

(N) **Duty to Supplement** [WNCRAQA Code 17.0507(f)]
The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to WNCRAQA. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

(O) **Retention of Records** [WNCRAQA Code 17.0508(f) and 17.0508(l)]
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to an authorized WNCRAQA representative for inspection upon request.

(P) **Compliance Certification** [WNCRAQA Code 17.0508(n)]
The Permittee shall submit to WNCRAQA and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street, Atlanta, GA 30303) postmarked on or before **January 30** a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

(1) The identification of each term or condition of the permit that is the basis of the certification;

(2) The compliance status (with the terms and conditions of the permit for the period covered by the certification);

(3) Whether compliance was continuous or intermittent; and

(4) The method(s) used for determining the compliance status of the source during the certification period.

(Q) **Certification by Responsible Official** [WNCRAQA Code 17.0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(R) **Permit Shield for Applicable Requirements** [WNCRAQA Code 17.0512]

(1) Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.

(2) A permit shield shall not alter or affect:

(a) The power of the Director under WNCRAQA Code 1.0102(a)(12), or EPA under Section 303 of the Federal Clean Air Act;

(b) The liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;

(c) The applicable requirements under Title IV; or

(d) The ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.

(3) A permit shield does not apply to any change made at a facility that does not require a permit or

permit revision made under WNCRAQA Code 17.0523.

(4) A permit shield does not extend to minor permit modifications made under WNCRAQA Code 17.0515.

(S) **Termination, Modification, and Revocation of the Permit** [WNCRAQA Code 17.0519]
The Director may terminate, modify, or revoke and reissue this permit if:

(1) The information contained in the application or presented in support thereof is determined to be incorrect;

(2) The conditions under which the permit or permit renewal was granted have changed;

(3) Violations of conditions contained in the permit have occurred;

(4) The EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or

(5) The Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

(T) **Insignificant Activities** [WNCRAQA Code 17.0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized WNCRAQA representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

(U) **Property Rights** [WNCRAQA Code 17.0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

(V) **Inspection and Entry** [WNCRAQA Code 17.0508(l) and 1.0104(d)]

(1) Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow WNCRAQA, or an authorized representative, to perform the following:

(a) Enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

(c) Inspect, at reasonable times and using reasonable safety practices, any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) Sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.

(2) No person shall refuse entry or access to any authorized representative of WNCRAQA who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any

person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his or her official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

(W) **Annual Fee Payment** [WNCRAQA Code 17.0508(i)(10)]

(1) The Permittee shall pay all fees in accordance with WNCRAQA Code 17.0200.

(2) Payment of fees may be by check or money order made payable to the Western North Carolina Regional Air Quality Agency. Annual permit fee payments shall refer to the permit number.

(3) If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under WNCRAQA Code 17.0519.

(X) **Annual Emission Inventory Requirements** [WNCRAQA Code 17.0207]
The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in WNCRAQA Code 17.0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such forms as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

(Y) **Confidential Information** [WNCRAQA Code 17.0107 and 17.0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to WNCRAQA Code 17.0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with WNCRAQA Code 17.0107.

(Z) **Construction and Operation Permits** [WNCRAQA Code 17.0100 and 17.0300]
A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source that is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of WNCRAQA Code 17.0100 and 17.0300.

(AA) **Standard Application Form and Required Information** [WNCRAQA Code 17.0505 and 17.0507]
The Permittee shall submit applications and required information in accordance with the provisions of WNCRAQA Code 17.0505 and 17.0507.

(BB) **Financial Responsibility and Compliance History** [WNCRAQA Code 17.0507(d)(4)]
WNCRAQA may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

(CC) **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [WNCRAQA Code 17.0501(e)]

(1) If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82, Subpart A, Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82, Subpart F.

(2) The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device, except as provided in 40 CFR Part 82, Subpart F.

(3) The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

(DD) **Prevention of Accidental Releases - Section 112(r)** [WNCRAQA Code 17.0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

(EE) **Prevention of Accidental Releases "General Duty" Clause - Section 112(r)(1)** - FEDERALLY ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

(FF) **Title IV Allowances** [WNCRAQA Code 17.0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

(GG) **Air Pollution Emergency Episode** [WNCRAQA Code 4.0300]
Should the Director declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in WNCRAQA Code 4.0300.

(HH) **Registration of Air Pollution Sources** [WNCRAQA Code 4.0202]
The Director may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with WNCRAQA Code 4.0202(b).

(II) **Ambient Air Quality Standards** [WNCRAQA Code 4.0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in WNCRAQA Code 4.0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

(JJ) **General Emissions Testing and Reporting Requirements** [WNCRAQA Code 17.0508(i)(16)]
Emission compliance testing shall be by the procedures of WNCRAQA Code 4 .2600, except as may be otherwise required in WNCRAQA Code 4.0524, 4.0912, 4.1110, 4.1111, or 4.1415. If emissions testing is required by this permit or WNCRAQA or if the Permittee submits emissions testing to WNCRAQA to demonstrate compliance, the Permittee shall perform such testing in accordance with WNCRAQA Code 4.2600 and follow the procedures outlined below:

(1) The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least 45 days before conducting the test.

(2) Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least 15 days before beginning the test so that the Director may at his option observe the test.

(3) The owner or operator of the source shall arrange for controlling and measuring the production

rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.

(4) One copy of the final air emission test report shall be submitted to the Director not later than 30 days after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.

(a) The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:

(i) Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.

(ii) Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.

(iii) Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.

(b) The Director may authorize the WNCRAQA to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the WNCRAQA using the appropriate testing procedures described in WNCRAQA Code 4.2600 has precedence over all other tests.

(KK) <u>Reopening for Cause</u> [WNCRAQA Code 17.0517]

(1) A permit shall be reopened and revised under the following circumstances:

(a) Additional applicable requirements become applicable to a facility with remaining permit term of three or more years;

(b) Additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;

(c) The Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or

(d) The Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(2) Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to WNCRAQA Code 17.0513(c).

(3) Except for the local enforceable only portion of the permit, the procedures set out in WNCRAQA Code 17.0507, 17.0521, or 17.0522 shall be followed to reissue the permit. If the local

enforceable only portion of the permit is reopened, the procedures in WNCRAQA Code 17.0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.

(4) The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.

(5) Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

(LL) **Reporting Requirements for Non-Operating Equipment** [WNCRAQA Code 17.0508(i)(16)]
The Permittee shall maintain a record of operation for permitted equipment, noting whenever the equipment is taken from and placed into operation. During operation, the monitoring, recordkeeping, and reporting requirements, as prescribed by the permit, shall be implemented within the monitoring period.

(MM) **Fugitive Dust Control Requirement** [WNCRAQA Code 4.0540] - LOCAL ENFORCEABLE ONLY
As required by WNCRAQA Code 4.0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in WNCRAQA Code 4.0540(g). "Fugitive dust emissions" means particulate matter that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas, stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

(NN) **Specific Permit Modifications** [WNCRAQA Code 17.0501 and 17.0523]

(1) For modifications made pursuant to WNCRAQA Code 17.0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.

(2) For modifications made pursuant to WNCRAQA Code 17.0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of WNCRAQA Code 17.0500 (except for WNCRAQA Code 17.0504) is obtained.

(3) For modifications made pursuant to 502(b)(10), in accordance with WNCRAQA Code 17.0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA Region 4 - Air Planning Branch, 61 Forsyth St., Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:

(a) A description of the change at the facility;

(b) The date on which the change will occur;

(c) Any change in emissions; and

(d) Any permit term or condition that is no longer applicable as a result of the change.

In addition to this notification requirement, with the next significant modification or Air Quality

Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements

(OO) **Third Party Participation and EPA Review** [WNCRAQA Code 17.0521, 17.0522 and 17.0525(7)]
For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 2Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Insignificant Activities Under WNCRAQA Code 17.0503(8)

Emission Source Description	Control Device Description
Two (2) 1,804,000-gallon capacity aboveground No. 2 fuel oil storage tanks	NA
Two (2) 15,000-gallon capacity urea storage tanks	NA
One (1) 90,000-gallon capacity urea solution feed tank	NA
One (1) 4.00 million BTU per hour natural gas-fired gas heater	NA
One (1) 200-gallon capacity No. 2 fuel oil storage tank	NA
One (1) 280-gallon capacity No. 2 fuel oil storage tank	NA
One (1) 25,000-gallon capacity No. 2 fuel oil storage tank	NA
Two (2) 6,200-gallon capacity lube oil tanks	NA
Two (2) 250-gallon capacity false start drain tanks	NA
One (1) 1,000-gallon capacity kerosene storage tank	NA
One (1) 1,000-gallon capacity gasoline storage tank	NA
One (1) 8,000-gallon capacity batch lube oil tank	NA
One (1) 9,200-gallon capacity batch lube oil tank	NA
One (1) 4,455-gallon capacity turbine lube oil tank with demister	NA
One (1) 3,000-gallon capacity turbine lube oil tank with demister	NA
One (1) 8,000-gallon capacity transformer oil tank	NA
One (1) 500-gallon capacity mobile diesel fuel storage tank	NA
Coal handling / coal pile / ash handling and ash pond	NA
Gypsum handling system	NA
Limestone pile	NA

ATTACHMENT

List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
BTU	British Thermal Unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CI	Compression Ignition
COMS	Continuous Opacity Monitoring System
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NCGS	North Carolina General Statutes
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NOx	Nitrogen Oxides
NSPS	New Source Performance Standard
PM	Particulate Matter
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
$PM_{2.5}$	Particulate Matter with Nominal Aerodynamic Diameter of 2.5 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RICE	Reciprocating Internal Combustion Engine
SI	Spark Ignition
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TPY	Tons Per Year
VOC	Volatile Organic Compound
WNCRAQA	Western North Carolina Regional Air Quality Agency

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 11/30/2012

Acid Rain Permit Application

For more information, see instructions and 40 CFR 72.30 and 72.31.

This submission is: ~ new ~ revised X for Acid Rain permit renewal

STEP 1

Identify the facility name, State, and plant (ORIS) code.

Facility (Source) Name	State	Plant Code
Asheville Steam Electric Plant	NC	2706

STEP 2

Enter the unit ID# for every affected unit at the affected source in column "a."

a	b
Unit ID#	Unit Will Hold Allowances In Accordance with 40 CFR 72.9(c)(1)
1	X
2	X
3	X
4	X

STEP 3

Read the standard requirements.

Permit Requirements

(1) The designated representative of each affected source and each affected unit at the source shall:

(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;

(2) The owners and operators of each affected source and each affected unit at the source shall:

(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and

(ii) Have an Acid Rain Permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.

(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the source shall:

(i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and

(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.

(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:

(i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or

(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

Sulfur Dioxide Requirements, Cont'd.

STEP 3, Cont'd.

(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

(1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an affected source that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;

Recordkeeping and Reporting Requirements, Cont'd.

STEP 3, Cont'd.

(ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.
(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:
(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating

Asheville Steam Electric Plant
Facility (Source) Name (from STEP 1)

Effect on Other Authorities, Cont'd.

STEP 3, Cont'd.

to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a source can hold; *provided*, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

STEP 4
Read the certification statement, sign, and date.

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Harry Sideris (Designated Representative)	
Signature Harry Sideris	Date 6/23/14

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 11/30/2012

Acid Rain NO_X Compliance Plan

For more information, see instructions and refer to 40 CFR 76.9

Page 1

This submission is: ☐ New ☒ Revised

Page ☐ of ☐

STEP 1
Indicate plant name, State, and Plant code from the current Certificate of Representation covering the facility.

Plant Name	State	Plant Code
Duke Energy Progress, Inc. Asheville Steam Electric Plant	N.C.	2706

STEP 2

Identify each affected Group 1 and Group 2 boiler using the unit IDs from the current Certificate of Representation covering the facility. Also indicate the boiler type: "CB" for cell burner, "CY" for cyclone, "DBW" for dry bottom wall-fired, "T" for tangentially fired, "V" for vertically fired, and "WB" for wet bottom, and select the compliance option for each unit by making an 'X' in the appropriate row and column.

	ID# 1	ID# 2	ID#	ID#	ID#	ID#
	Type DBW	Type DBW	Type	Type	Type	Type
(a) Standard annual average emission limitation of 0.60 lb/mmBtu (for Phase I dry bottom wall-fired boilers)						
(b) Standard annual average emission limitation of 0.45 lb/mmBtu (for Phase I tangentially fired boilers)						
(c) Standard annual average emission limitation of 0.46 lb/mmBtu (for Phase II dry bottom wall-fired boilers)	XX	XX				
(d) Standard annual average emission limitation of 0.40 lb/mmBtu (for Phase II tangentially fired boilers)						
(e) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers)						
(f) Standard annual average emission limitation of 0.86 lb/mmBtu (for cyclone boilers)						
(g) Standard annual average emission limitation of 0.50 lb/mmBtu (for vertically fired boilers)						
(h) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers)						

STEP 2, cont'd

Asheville Steam Electric Plant

Plant Name (From Step 1)

	1 ID#	2 ID#	ID#	ID#	ID#	ID#
	DBW Type	DBW Type	Type	Type	Type	Type
(i) NO_x Averaging Plan (include NO_x Averaging form)						
(j) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(A) (check the standard emission limitation box above for most stringent limitation applicable to any unit utilizing stack)						
(k) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(B) with NO_x Averaging (check the NO_x Averaging Plan box and include NO_x Averaging Form))						
(l) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17(a)(2)(i)(C), (a)(2)(iii)(B), or (b)(2)						

STEP 3: Identify the first calendar year in which this plan will apply.

January 1, 2015

STEP 4: Read the special provisions and certification, enter the name of the designated representative, sign and date.

Special Provisions

General This source is subject to the standard requirements in 40 CFR 72 9 These requirements are listed in this source's Acid Rain Permit.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Larry Hatcher	
Signature Larry E. Hatcher	Date 3-23-15

Acid Rain Program
Instructions for Acid Rain NO_X Compliance Plan and Averaging Plan (40 CFR 76.9 and 76.11)

The Acid Rain Program NO_X regulations are found at 40 CFR part 76 and apply to each existing coal-fired utility unit that is subject to sulfur dioxide (SO_2) emission reduction requirements under Sections 404, 405, or 409 of the Clean Air Act. Under 40 CFR 76.9, the owner of operator of each affected unit subject to 40 CFR part 76 must include a NO_X compliance plan in the Acid Rain permit application that covers that unit.

Acid Rain NO_X Compliance Plan Instructions

STEP 1

Enter the plant name and 4 or 5 digit plant code used in the Certificate of Representation covering the facility.

STEP 2

For each boiler subject to an Acid Rain NO limit, enter the boiler (unit) ID #, (consistent with the unit ID # listed for the unit on the Certificate of Representation covering the facility) and check either (1) the appropriate box denoting the standard limit that the unit is subject to in row (a) through (h) or (2) the NO_X averaging plan box in row (i) (if a box in row "i" is checked, a NO_X Averaging Plan form must also be submitted with the NO_X compliance plan). If applicable, one of the boxes in rows (j) through (l) may also be checked. See the "Common Stacks" paragraph immediately below.

Common Stacks

A unit that utilizes a common stack and is separately monitored for NO_X (i.e, has its own NO_X monitor and diluent monitor) is treated as the same as a unit that emits only through its own separate stack.

A unit that utilizes a common stack and is not monitored separately must select one of the applicable common stack options. If the unit shares a common stack with other affected units and no non-affected units and if each of the units has a NO_X emission limitation, three options are available: comply with the most stringent NO_X emission limitation applicable to any unit utilizing the common stack (option (j)); include the units in a NO_X averaging plan (option (k)); or use an approved method for apportioning the combined NO_X emission rate in the common stack (option (l)). If the unit shares a common stack with at least one other unit that does not have a NO_X emission limitation or with at least one non-affected unit, you must use an approved method for apportioning the combined NO_X emission rate (option (l)), unless, of course, the unit is separately monitored.

If an apportionment option is chosen, check, in addition to option (l), the box at Step 2 that indicates the applicable emission limitation and submit to U.S. EPA the documentation supporting apportionment with the monitoring plan submission.

STEP 3

Identify the first calendar year in which the Acid Rain NO_X compliance plan will apply. Beginning with the calendar year denoted at Step 3, this Acid Rain NO_X compliance plan will apply each calendar year that follows until (and if) a superseding Acid Rain NO_X compliance plan is submitted.

Acid Rain NO_X Averaging Plan Instructions

Under 40 CFR 76.11 any affected units under control of the same owner or operator and with the same designated representative may average their NO_X emission rate, rather than each unit complying on an individual-unit basis with the applicable emission limitation in 40 CFR 76.5, 76.6, or 76.7. Units with no common owner or operator may not average their emissions. You may submit an averaging plan (or a revision to an approved averaging plan) with the appropriate title V permitting authority(s) at any time up to and including January 1 of the calendar year for which the averaging plan will become effective. If the plan is restricted to units located within a single permitting authority's jurisdiction, you may submit the plan at any time up to and including July 1 of the calendar year for which the plan will become effective.

STEP 1

Each unit in the averaging plan must be a Group 1 or Group 2 boiler subject to an emission limitation under 40 CFR 76.5, 76.6, or 76.7. Enter each unit's applicable emission limitation from 40 CFR 76.5, 76.6, or 76.7 in column (a).

For units utilizing a common stack that are averaging pursuant to 40 CFR 75.17(a)(2)(i)(B), the same alternative contemporaneous emission limitation must be entered in column (b) for each unit utilizing the common stack. Different annual heat input limits may be entered for these units in column (c). Units not utilizing the common stack may also be included in the averaging plan with the common stack units.

The annual heat input limit entered at column (c) will be a minimum limit if the value in column (b) is less than the value in column (a) for that unit. It will be a maximum limit if the value in column (b) is greater than the value in column (a). The values entered for each unit at columns (b) and (c) must satisfy the formula at Step 2.

STEP 2

The entries in Step 2 must demonstrate that the Btu-weighted annual emission rate averaged over the units in the plan is less than or equal to the Btu-weighted annual average emission rate for the same units if they are each operated, during the same period of time, in compliance with the applicable emission limitations in 40 CFR 76.5, 76.6, or 76.7. Use the equation that appears in Step 2 to demonstrate that the alternative contemporaneous annual emission limitations and annual heat input values assigned to the units in Step 1 satisfy this criterion.

STEP 3

Identify the first calendar year in which the Acid Rain NO_x averaging plan will apply. Beginning with the calendar year denoted at Step 3, this Acid Rain NO_x averaging plan will apply each calendar year that follows until (and if) a superseding Acid Rain NO_x compliance plan or averaging plan is submitted.

General Instructions

(1) Submit one complete set of all forms with original signatures to the appropriate title V permitting authority (for NO_x Averaging Plans, a copy of the plan must be submitted to each title V permitting authority with jurisdiction over any of the units in the plan) and one copy to U.S. EPA:

For Regular or Certified Mail:

U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Mail Code 6204M
Attn: Acid Rain NO_x
Washington, DC 20460

For Overnight Mail:

U.S. Environmental Protection Agency
1201 Constitution Ave., NW
7th Floor, Room # 7421L
Attn: Acid Rain NO_x
Washington, DC 20004
(202) 343-9077

(2) For assistance, contact Robert Miller at (202) 343-9077 or Miller.RobertL@epa.gov or call the Acid Rain Hotline at (202) 343-9620.

Paperwork Burden Estimate

The burden on the public for collecting and reporting of information under this request is fixed per response indicated. Send comments regarding this collection of information, including suggestions for reducing the burden, to: Chief, Information Policy Branch (PM-223), U.S. Environmental Protection Agency,1200 Pennsylvania Ave. NW, Washington, D.C. 20460; and to: Paperwork Reduction Project (OMB#2060-0258), Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503. *Do not send your forms to these addresses; see the General Instructions on Page 2 for form submission information.*

FORM	HOURS
NO_x Compliance Plan	10
NO_x Averaging Plan	50

Clean Air Interstate Rule (CAIR) Permit Application

for Administrative Amendment to Title V Permit to Add CAIR Budget Trading Part

For more information, see instructions and refer to 40 CFR 96.121, 96.122, 96.221, 96 222, 96.321 and 96.322; and 15A NCAC 2D .2406.

This submission is: ☒Renewal Page 1

STEP 1

Identify the source by filling in the requested data.

Legal Corporate / Owner Name Duke Energy Progress, Inc.		
Site Address 200 CP&L Drive	City Asheville	Zip Code 28704
Plant Name Asheville Steam Electric Plant	County Buncombe	ORIS/Plant Code 2706
Title V Permit No. 11-628-10D	TV Rev. D	NC Facility ID 11-628
Permit Technical Contact: Cynthia Winston Address: 410 S. Wilmington Street, Raleigh, NC 27601 Phone No. 919-546-5538 Fax No. 919-546-6302 email: Cynthia.Winston@duke-energy.com	Facility Inspection Contact: Laurie Moorhead Address: 200 CP&L Drive, Asheville, NC 28704 Phone No. 828-687-5240 Fax No. email: Laurie.Moorhead@duke-energy.com	

STEP 2

In column "a" enter the unit ID# for every CAIR unit at the CAIR source.

In columns "b", "c", and "d" indicate to which CAIR program(s) each unit is subject by placing an "X" in the column(s).

For new units, enter the requested information in columns "e" and "f".

a	b	c	d	e	f
Unit ID#	Unit will hold nitrogen oxides (NOx) allowances in accordance with 40 CFR 96.106(c)(1)	Unit will hold sulfur dioxide (SO_2) allowances in accordance with 40 CFR 96.206(c)(1)	Unit will hold NOx Ozone Season allowances in accordance with 40 CFR 96.306(c)(1)	New Units Expected Commence Commercial Operation Date	New Units Expected Monitor Certification Deadline
1	X	X	X	NA	NA
2	X	X	X	NA	NA
3	X	X	X	NA	NA
4	X	X	X	NA	NA

Plant Name (from STEP 1) Asheville Steam Electric Plant

STEP 3

Read the standard requirements.

CAIR NOx ANNUAL TRADING PROGRAM

CAIR Part Requirements.

(1) The CAIR designated representative of each CAIR NOx source required to have a Title V operating permit or air construction permit, and each CAIR NOx unit required to have a Title V operating permit or air construction permit at the source shall:
(i) Submit to the DAQ a complete and certified CAIR part form under 40 CFR part 96.122 and 15A NCAC 2D .2406; and

(ii) [Reserved];
(2) The owners and operators of each CAIR NOx source required to have a Title V operating permit or air construction permit, and each CAIR NOx unit required to have a Title V operating permit or air construction permit at the source shall have a CAIR Part included in the Title V operating permit or air construction permit issued by the Director and operate the source and the unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

(1) The owners and operators, and the CAIR designated representative, of each CAIR NOx source and each CAIR NOx unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR part 96 subpart HH and 15A NCAC 2D .2407
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 96 subpart HH shall be used to determine compliance by each CAIR NOx source with the following CAIR NOx Emissions Requirements.

NOx Emission Requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NOx source and each CAIR NOx unit at the source shall hold, in the source's compliance account, CAIR NOx allowances available for compliance deductions for the control period under 40 CFR 96.154(a) in an amount not less than the tons of total NOx emissions for the control period from all CAIR NOx units at the source, as determined in accordance with 40 CFR part 96 subpart HH.
(2) A CAIR NOx unit shall be subject to the requirements under paragraph (1) of the NOx Requirements starting on the later of January 1, 2009 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.170(b)(1) or (2) and for each control period thereafter.
(3) A CAIR NOx allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NOx Requirements, for a control period in a calendar year before the year for which the CAIR NOx allowance was allocated
(4) CAIR NOx allowances shall be held in, deducted from, or transferred into or among CAIR NOx Allowance Tracking System accounts in accordance with 40 CFR part 96 subparts FF and GG.
(5) A CAIR NOx allowance is a limited authorization to emit one ton of NOx in accordance with the CAIR NOx Annual Trading Program. No provision of the CAIR NOx Annual Trading Program, the CAIR Part, or an exemption under 40 CFR 96.105 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization.
(6) A CAIR NOx allowance does not constitute a property right.
(7) Upon recordation by the Administrator under 40 CFR part 96 subpart EE, FF, or GG, every allocation, transfer, or deduction of a CAIR NOx allowance to or from a CAIR NOx unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NOx unit.

Excess Emissions Requirements.

If a CAIR NOx source emits NOx during any control period in excess of the CAIR NOx emissions limitation, then:
(1) The owners and operators of the source and each CAIR NOx unit at the source shall surrender the CAIR NOx allowances required for deduction under 40 CFR 96.154(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and
(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 96 subpart AA the Clean Air Act, and applicable State law.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR NOx source and each CAIR NOx unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Director or the Administrator.
(i) The certificate of representation under 40 CFR 96.113 for the CAIR designated representative for the source and each CAIR NOx unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative
(ii) All emissions monitoring information, in accordance with 40 CFR part 96 subpart HH of this part, provided that to the extent that 40 CFR part 96 subpart HH provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NOx Annual Trading Program
(iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NOx Annual Trading Program or to demonstrate compliance with the requirements of the CAIR NOx Annual Trading Program.

(2) The CAIR designated representative of a CAIR NOx source and each CAIR NOx unit at the source shall submit the reports required under the CAIR NOx Annual Trading Program, including those under 40 CFR part 96 subpart HH

Plant Name (from STEP 1) Asheville Steam Electric Plant

STEP 3, Continued

Liability.

(1) Each CAIR NOx source and each CAIR NOx unit shall meet the requirements of the CAIR NOx Annual Trading Program.
(2) Any provision of the CAIR NOx Annual Trading Program that applies to a CAIR NOx source or the CAIR designated representative of a CAIR NOx source shall also apply to the owners and operators of such source and of the CAIR NOx units at the source.

(3) Any provision of the CAIR NOx Annual Trading Program that applies to a CAIR NOx unit or the CAIR designated representative of a CAIR NOx unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR NOx Annual Trading Program, a CAIR Part, or an exemption under 40 CFR 96.105 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NOx source or CAIR NOx unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

CAIR SO_2 TRADING PROGRAM

CAIR Part Requirements.

(1) The CAIR designated representative of each CAIR SO_2 source required to have a Title V operating permit or air construction permit, and each CAIR SO_2 unit required to have a Title V operating permit or air construction permit at the source shall:
(i) Submit to the DAQ a complete and certified CAIR part form under 40 CFR part 96.222 and 15A NCAC 2D .2406; and

(ii) [Reserved].
(2) The owners and operators of each CAIR SO_2 source required to have a Title V operating permit or air construction permit, and each CAIR SO_2 unit required to have a Title V operating permit or air construction permit at the source shall have a CAIR Part included in the Title V operating permit or air construction permit issued by the Director under 40 CFR part 96 subpart CCC for the source and operate the source and each CAIR unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

(1) The owners and operators, and the CAIR designated representative, of each CAIR SO_2 source and each SO_2 CAIR unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR part 96 subpart HHH and 15A NCAC 2D .2407

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 96 subpart HHH shall be used to determine compliance by each CAIR SO_2 source with the following CAIR SO_2 Emission Requirements.

SO_2 Emission Requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO_2 source and each CAIR SO_2 unit at the source shall hold, in the source's compliance account, a tonnage equivalent in CAIR SO_2 allowances available for compliance deductions for the control period, as determined in accordance with 40 CFR 96.254(a) and (b), not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO_2 units at the source, as determined in accordance with 40 CFR part 96 subpart HHH
(2) A CAIR SO_2 unit shall be subject to the requirements under paragraph (1) of the Sulfur Dioxide Emission Requirements starting on the later of January 1, 2010 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.270(b)(1) or (2) and for each control period thereafter.
(3) A CAIR SO_2 allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the SO_2 Emission Requirements, for a control period in a calendar year before the year for which the CAIR SO_2 allowance was allocated.
(4) CAIR SO_2 allowances shall be held in, deducted from, or transferred into or among CAIR SO_2 Allowance Tracking System accounts in accordance with 40 CFR part 96 subparts FFF and GGG.
(5) A CAIR SO_2 allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO_2 Trading Program. No provision of the CAIR SO_2 Trading Program, the CAIR Part, or an exemption under 40 CFR 96.205 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization.
(6) A CAIR SO_2 allowance does not constitute a property right.
(7) Upon recordation by the Administrator under 40 CFR part 96 subpart FFF or GGG, every allocation, transfer, or deduction of a CAIR SO_2 allowance to or from a CAIR SO_2 unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR SO_2 unit.

Excess Emissions Requirements.

If a CAIR SO_2 source emits SO_2 during any control period in excess of the CAIR SO_2 emissions limitation, then:
(1) The owners and operators of the source and each CAIR SO_2 unit at the source shall surrender the CAIR SO_2 allowances required for deduction under 40 CFR 96.254(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and
(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 96 subpart AAA, the Clean Air Act, and applicable State law.

Plant Name (from STEP 1) Asheville Steam Electric Plant

STEP 3, Continued

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR SO_2 source and each CAIR SO_2 unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Director or the Administrator.
(i) The certificate of representation under 40 CFR 96.213 for the CAIR designated representative for the source and each CAIR SO_2 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.213 changing the CAIR designated representative.
(ii) All emissions monitoring information, in accordance with 40 CFR part 96 subpart HHH of this part, provided that to the extent that 40 CFR part 96 subpart HHH provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR SO_2 Trading Program.
(iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR SO_2 Trading Program or to demonstrate compliance with the requirements of the CAIR SO_2 Trading Program.
(2) The CAIR designated representative of a CAIR SO_2 source and each CAIR SO_2 unit at the source shall submit the reports required under the CAIR SO_2 Trading Program, including those under 40 CFR part 96 subpart HHH.

Liability.

(1) Each CAIR SO_2 source and each CAIR SO_2 unit shall meet the requirements of the CAIR SO_2 Trading Program.
(2) Any provision of the CAIR SO_2 Trading Program that applies to a CAIR SO_2 source or the CAIR designated representative of a CAIR SO_2 source shall also apply to the owners and operators of such source and of the CAIR SO_2 units at the source.
(3) Any provision of the CAIR SO_2 Trading Program that applies to a CAIR SO_2 unit or the CAIR designated representative of a CAIR SO_2 unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR SO_2 Trading Program, a CAIR Part, or an exemption under 40 CFR 96.205 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR SO_2 source or CAIR SO_2 unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

CAIR NOx OZONE SEASON TRADING PROGRAM

CAIR Part Requirements.

(1) The CAIR designated representative of each CAIR NOx Ozone Season source required to have a Title V operating permit or air construction permit, and each CAIR NOx Ozone Season unit required to have a Title V operating permit or air construction permit at the source shall:

(i) Submit to the DAQ a complete and certified CAIR part form under 40 CFR part 96.322 and 15A NCAC 2D .2406; and
(ii) [Reserved];

(2) The owners and operators of each CAIR NOx Ozone Season source required to have a Title V operating permit or air construction permit, and each CAIR NOx Ozone Season unit required to have a Title V operating permit or air construction permit at the source shall have a CAIR Part included in the Title V operating permit or air construction permit issued by the Director under 40 CFR part 96 subpart CCCC for the source and operate the source and the unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

(1) The owners and operators, and the CAIR designated representative, of each CAIR NOx Ozone Season source and each CAIR NOx Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR part 96 subpart HHHH and 15A NCAC 2D .2407

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 96 subpart HHHH shall be used to determine compliance by each CAIR NOx Ozone Season source with the following CAIR NOx Ozone Season Emissions Requirements

NOx Ozone Season Emission Requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NOx Ozone Season source and each CAIR NOx Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NOx Ozone Season allowances available for compliance deductions for the control period under 40 CFR 96.354(a) in an amount not less than the tons of total NOx emissions for the control period from all CAIR NOx Ozone Season units at the source, as determined in accordance with 40 CFR part 96 subpart HHHH.
(2) A CAIR NOx Ozone Season unit shall be subject to the requirements under paragraph (1) of the NOx Ozone Season Emission Requirements starting on the later of May 1, 2009 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.370(b)(1),(2), or (3) and for each control period thereafter.
(3) A CAIR NOx Ozone Season allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NOx Ozone Season Emission Requirements, for a control period in a calendar year before the year for which the CAIR NOx Ozone Season allowance was allocated.
(4) CAIR NOx Ozone Season allowances shall be held in, deducted from, or transferred into or among CAIR NOx Ozone Season Allowance Tracking System accounts in accordance with 40 CFR part 96 subparts FFFF and GGGG.
(5) A CAIR NOx Ozone Season allowance is a limited authorization to emit one ton of NOx in accordance with the CAIR NOx Ozone Season Trading Program. No provision of the CAIR NOx Ozone Season Trading Program, the CAIR Part, or an exemption under 40 CFR 96.305 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization
(6) A CAIR NOx Ozone Season allowance does not constitute a property right.
(7) Upon recordation by the Administrator under 40 CFR part 96 subpart EEEE, FFFF or GGGG, every allocation, transfer, or deduction of a CAIR NOx Ozone Season allowance to or from a CAIR NOx Ozone Season unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NOx Ozone Season unit.

Plant Name (from STEP 1) Asheville Steam Electric Plant

STEP 3, Continued

Excess Emissions Requirements.

If a CAIR NOx Ozone Season source emits NOx during any control period in excess of the CAIR NOx Ozone Season emissions limitation, then
(1) The owners and operators of the source and each CAIR NOx Ozone Season unit at the source shall surrender the CAIR NOx Ozone Season allowances required for deduction under 40 CFR 96.354(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and
(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 96 subpart AAAA, the Clean Air Act, and applicable State law.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR NOx Ozone Season source and each CAIR NOx Ozone Season unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Director or the Administrator.
(i) The certificate of representation under 40 CFR 96.313 for the CAIR designated representative for the source and each CAIR NOx Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative.
(ii) All emissions monitoring information, in accordance with 40 CFR part 96 subpart HHHH of this part, provided that to the extent that 40 CFR part 96 subpart HHHH provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NOx Ozone Season Trading Program.
(iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NOx Ozone Season Trading Program or to demonstrate compliance with the requirements of the CAIR NOx Ozone Season Trading Program.
(2) The CAIR designated representative of a CAIR NOx Ozone Season source and each CAIR NOx Ozone Season unit at the source shall submit the reports required under the CAIR NOx Ozone Season Trading Program, including those under 40 CFR part 96 subpart HHHH.

Liability.

(1) Each CAIR NOx Ozone Season source and each CAIR NOx Ozone Season unit shall meet the requirements of the CAIR NOx Ozone Season Trading Program.
(2) Any provision of the CAIR NOx Ozone Season Trading Program that applies to a CAIR NOx Ozone Season source or the CAIR designated representative of a CAIR NOx Ozone Season source shall also apply to the owners and operators of such source and of the CAIR NOx Ozone Season units at the source.
(3) Any provision of the CAIR NOx Ozone Season Trading Program that applies to a CAIR NOx Ozone Season unit or the CAIR designated representative of a CAIR NOx Ozone Season unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR NOx Ozone Season Trading Program, a CAIR Part, or an exemption under 40 CFR 96.305 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NOx Ozone Season source or CAIR NOx Ozone Season unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

STEP 4

Read the certification statement; provide name, title, owner company name, phone, email address; sign, and date.

Certification (for designated representative or alternate designated representative only)

I am authorized to make this submission on behalf of the owners and operators of the CAIR source or CAIR units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Harry Sideris	Title Vice President, Carolinas West
Owner Name Duke Energy Progress, Inc.	Company Duke Energy Progress, Inc.
Phone (704) 382-4303	Email Address Harry.Sideris@duke-energy.com
Signature [signature]	Date 6/23/14