FINAL

Revision to the North Carolina State Implementation Plan

NOx SIP Call Transition Requirements for Large non-EGUs

Clean Air Act Section 110(l) Non-Interference Demonstration

Prepared by

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PREFACE

This document serves as a revision to the North Carolina State Implementation Plan (SIP) regarding emissions of nitrogen oxides (NOx). It contains a Clean Air Act Section 110(l) non-interference demonstration for the removal of the 40 Code of Federal Regulations Part 75 requirements for large non-electric generating units (non-EGUs) covered under the NOx SIP Call.

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1.0 EXECUTIVE SUMMARY

1.1 Background and Purpose

The U.S. Environmental Protection Agency (EPA) issued the Nitrogen Oxides (NOx) State Implementation Plan (SIP) Call on October 27, 1998 (63 FR 57356). The NOx SIP Call was designed to assist areas in attaining the 1979 1-hour ozone National Ambient Air Quality Standards (NAAQS) by reducing the transport of ozone and precursor emissions from upwind states. The EPA developed a cap and trade system for NOx emissions referred to as the Federal NOx Budget Trading Program (NBP). The NBP was codified in 40 Code of Federal Regulations (CFR) Part 97. The EPA gave states the option of incorporating the NBP into their implementation plans being submitted under the NOx SIP Call.

Sources under the NBP included: 1) Electric generating units (EGUs) greater than 25 megawatts (MW) at both utility and non-utility facilities such as universities and 2) industrial boilers or turbines greater than 250 million Btu (MMBtu) heat input that produce electricity and/or steam for onsite use. The industrial and institutional sources are generally referred to as "non-EGU" sources.

The State of North Carolina, through the Division of Air Quality (DAQ), submitted a SIP revision on September 18, 2001 in response to the NOx SIP Call. This SIP revision established the requirements for a NOx cap and trade program involving both the EGU and non-EGU sources. It included NOx allocations for each affected source and a total state budget along with a demonstration that North Carolina would achieve the required emission reductions in accordance with timelines set forth in the state's SIP. The non-EGU sources had to demonstrate compliance with the rule beginning in 2004. As part of demonstrating compliance, these sources had to install and operate a continuous emissions monitoring system (CEMS) or other approved monitoring methods under the EPA's 40 CFR Part 75 monitoring requirements.[1] The Part 75 monitoring requirements were codified in the DAQ rules under 15A NCAC 2D .1400. On December 27, 2002, the EPA approved North Carolina's SIP revision (67 FR 78987).

[1] The EPA developed the NBP to enable emissions sources to find the most cost-effective solution for tracking and trading emissions allocations during the ozone season. The Part 75 CEMS requirements included rigorous quality assurance and quality control procedures that significantly increased the cost of monitoring relative to monitoring practices for which EPA has approved to demonstrate compliance with other federal programs (e.g., New Source Performance Standards, New Source Review, Prevention of Significant Deterioration, Reasonably Available Control Techniques) that do not include an emissions trading component. In other words, the Part 75 CEMS requirements were developed specifically to support an emissions trading program that monetizes the value of each ton of emissions so that the emissions can be sold and bought under the NBP market structure.

A new federal NOx and sulfur dioxide (SO_2) trading program, called the Clean Air Interstate Rule (CAIR), was promulgated by the EPA in 2005, which replaced the previous NOx SIP Call budget trading program. The CAIR was promulgated to address transport under both the 1997 8-hour ozone and $PM_{2.5}$ NAAQS. States could choose to implement annual and ozone season NOx reductions through this federal allowance trading program. North Carolina chose to comply by participating in the federal allowance trading program and by "opting-in" non-EGU sources into the program. The CAIR requirements and budgets for the non-EGUs were identical to the NOx SIP Call, and were codified in the DAQ rules under 15A NCAC 2D .2400 in July of 2006. On November 30, 2009, the EPA approved the CAIR provisions into North Carolina's SIP.

In subsequent years, the CAIR was remanded without vacatur by the D.C. Circuit, and replaced with the EPA's Cross-State Air Pollution Rule (CSAPR) on August 8, 2011 (76 FR 48208). The CSAPR requires states to improve air quality by reducing EGU emissions crossing state lines and contributing to both ozone and fine particle pollution in other states starting initially in 2012, but implementation did not begin until 2015. The non-EGUs were excluded from the CSAPR NOx budget trading program because the EPA concluded that these sources did not reduce NOx emissions as a result of being included in the previous trading programs and that these sources, as a group, had allowances that they did not need for compliance[2]. The first set of emissions requirements under the CSAPR took effect on January 1, 2015. The DAQ repealed North Carolina's CAIR provisions on February 1, 2016 as a result of the CSAPR replacement rule being in effect.

Although the non-EGU sources have no federal requirements to monitor or reduce emissions under the CSAPR, the EPA has stated that the anti-backsliding provisions of 40 CFR 51.905(f) require that the provisions of the NOx SIP Call, including the statewide NOx emission budgets for non-EGUs, be maintained. Furthermore, the requirements of the NOx SIP Call continue to be permanent and enforceable, including all state regulations developed to implement the requirements of the NOx SIP Call (77 FR 45259). In a very brief "frequently asked questions" (FAQ) document posted on the agency's CSAPR web site, titled "NOx SIP Call Transition for Large non-EGUs[3]", the EPA states that: (1) CSAPR does not preempt or replace the requirements

[2] Cross-State Air Pollution Rule Final Rule, 76 FR 48208, February 1, 2016.

[3] Cross-State Air Pollution Rule (CSAPR) Frequently Asked Questions; NOx SIP Call Transition for Large non-EGUs; http://www3.epa.gov/crossstaterule/faqs.html

of the NOx SIP Call, (2) NOx SIP Call budgets remain in place for non-EGUs, and (3) 40 CFR Part 75 monitoring, record keeping and reporting requirements must be retained.

The EPA states that these requirements can only be removed if additional ozone season NOx emission reductions from other sources are demonstrated to be achieved. In subsequent interactions with the DAQ, the EPA stated that a demonstration showing the removal of NOx SIP Call requirements for non-EGUs must also show non-interference within the State and its downwind neighbors to attain and maintain federal air quality standards in accordance with section 110(l) of the Clean Air Act.

This SIP revision serves as the non-interference demonstration showing that no change in emissions has occurred within the non-EGU sources as a group under the NOx SIP Call trading program, and the removal of 40 CFR Part 75 monitoring requirement will not interfere with the attainment or maintenance of the NAAQS within North Carolina and its downwind states. The DAQ will assure that emissions will continue to remain below the NOx SIP Call budget for this group of sources by tracking and evaluating ozone season emissions annually using existing applicable NOx monitoring, record keeping and reporting requirements.

1.2 North Carolina's Pre-Hearing Draft Demonstration and Public Comments

The DAQ developed a pre-hearing draft demonstration to remove 40 CFR Part 75 monitoring requirements for non-EGUs. The draft demonstration was based on ozone season budgets for both EGUs and non-EGUs, and a showing that the additional emission reductions achieved from other sources under CSAPR (i.e., EGU) have achieved extra reductions, over and above any required for those other sources in the NOx SIP Call. The DAQ requested to remove the monitoring of NOx emissions by the non-EGU sources using 40 CFR Part 75 methods.

Part 75 monitoring requires the use of CEMS which are costly to install and operate. A number of North Carolina's affected non-EGU facilities have notified the DAQ that their CEMS have reached the end of their useful life, and significant investment in capital is required to replace the existing equipment with new CEMS. Furthermore, many of the instrument parts are out of warranty and are no longer supported by the vendors. Removal of Part 75 requirements would bring economic relief in avoided capital investment, and recurring operating costs associated with replacing unsupported hardware. Since non-EGU sources can no longer participate in a trading program, Part 75 monitoring during ozone season is no longer necessary and is, therefore, an unnecessary burden. Most of the affected sources already have other federally enforceable NOx

monitoring requirements in place (e.g., Prevention of Significant Deterioration, New Source Performance Standards) that allow the state to verify NOx emissions levels.

The DAQ noticed the draft non-interference demonstration, and accepted public comment from September 2, 2015 through October 5, 2015 (see Attachment A). The EPA provided comments to the DAQ in a letter dated October 5, 2015 (see Attachment B). No other public comments were received. The EPA's four main comments and the DAQ's responses are summarized below.

1. The EPA stated that North Carolina's demonstration relied on the EGU CSAPR ozone season budget that was determined to be invalid and remanded to the EPA by the U.S. Court of Appeals for the D.C. Circuit, and that the State should not rely on the budget codified in its CSAPR FIP.

North Carolina's pre-hearing draft demonstration relied on the 2015 and 2017 CSAPR budgets, of which, the 2015 analysis is valid because it was based on the 3-year tolling of the CSAPR Phase I compliance date which became effective on January 1, 2015. The demonstration's reliance on the future 2017 budget cannot be retained because the EPA is still reconsidering the Phase II 2017 budget. The DAQ has revised the draft SIP based on the EPA's comments 2 and 3 below. As such, revisions related to Comment 1 are no longer relevant.

2. The EPA stated that North Carolina improperly based its demonstration on the NOx ozone season budget, rather than the non-EGU NOx emission reduction amount.

   The State of North Carolina disagrees with this comment, as it is inconsistent with how compliance evaluation with previous trading programs and the current CSAPR program is performed. Specifically, it is based on the mass emissions allocated (tons per ozone season) to the source sector or modeled for a given sector. The EPA is asking the State to base its determination on the modeled emissions reductions between a base year and future control case that were developed to support the cost benefit analysis for the rule. The rule itself did not require reductions of NOx emissions at any facility in North Carolina. The facilities were only required to obtain allowances, either through a distribution or a purchase, in an amount equal to the mass of NOx emitted during a given ozone season. Furthermore, in its 2010 technical support document (TSD) for the CSAPR, the EPA stated that the emission reductions from the non-EGU facilities that were achieved were not due to the trading program but primarily due to reduced operating hours at facilities.[4] This assertion is true for

[4] EPA, "Technical Support Document for the Transport Rule, Analysis of NOx Budget Trading Program Units Brought into the CAIR NOx Ozone Season Trading Program," July 2010.

North Carolina where 79 percent of the expected NOx emissions reductions in the non-EGU sector can be attributed to retirements of non-EGU sources from 2004 through 2007.

In the preamble to the CSPAR final rule, the EPA provides important statements regarding the lack of emission reductions achieved by the non-EGUs and the reasons for excluding them from the CSAPR trading program (76 FR 48322-48323):

> *"EPA proposed to not allow this expansion in applicability for the Transport Rule, primarily because these sources as a group did not actually reduce emissions for the NOx Budget Trading Program or CAIR."*

> *"EPA analysis shows that, as a group, these units did not collectively reduce emissions, their current emission rates are nearly identical to their emission rates before the start of the NOx Budget Trading Program, and their allocations are about twice their emissions, with the result that the excess allocations were sold to covered EGUs."*

Most importantly, the EPA stated that the agency *"believes that there are little or no emission reductions available by non-EGUs at the cost thresholds used in the final rule and so no basis for developing non-EGUs state budgets reflecting the elimination of significant contribution to nonattainment and interference with maintenance."* Despite making two distinct conclusions regarding non-EGU sources (i.e., lack of emission reductions and cost basis), the EPA contradicts itself by stating that "*[F]or states that relied on large non-EGUs for emission reductions required by the NOx SIP Call, EPA will assist in identifying ways to ensure continued, future compliance with the NOx SIP Call requirements"* (76 FR 48323).

The DAQ reviewed the EPA's guidance on transitioning non-EGU sources from the NOx ozone season trading program into a new emissions control program. The DAQ does not find it necessary to 1) "transition" these sources into a new state-only control program or 2) offset the NOx SIP Call emission reductions (as modeled by the EPA to support the RIA analysis) by establishing equivalent enforceable reductions through another SIP requirement. The reasons for North Carolina's position on the non-EGU transition are as follows:

a) The EPA is requiring states to develop an alternative control strategy while acknowledging that the trading program did not result in any actual NOx emission reductions over its eleven-year lifetime. This places a monetary burden on both the regulated sources and the State of North Carolina with no measurable benefit.

b) Section 110(l) of the CAA does not require states to offset modeled emission reductions for a control program. It requires states to offset increases in emissions to attain or maintain NAAQS. The EPA's transition approach constitutes over control of the affected sources and conflicts with the U.S. Supreme Court decision in EPA v. EME Homer City Generation[5].

c) The DAQ does not deem the transition options presented by the EPA as "necessary" since the EPA proved the program did not result in emission reductions.

For the reasons cited above which are consistent with the EPA's own findings, in this final submission, the DAQ is not basing its noninterference determination on the EPA's NOx reductions that were modeled to occur. Rather, the DAQ is showing that total mass emissions from all of North Carolina's active non-EGUs combined have remained relatively unchanged from 2004 through 2014. The DAQ confirms the EPA's own conclusion that emission reductions did not occur from these sources, and that there has been no change in emissions from this group as a whole. Therefore, since North Carolina has not relied on reductions from these sources, there is no need to achieve equivalent emissions reductions from other sources in order to remove non-EGU NOx SIP Call requirements.

3. The EPA stated that the DAQ's demonstration of emission reductions achieved by comparing EGU budgets under the CSAPR and NOx SIP Call and non-EGU budget under the NOx SIP Call does not show that the reductions are over and above those already required by the current federal trading program and may result in double-counting.

   The DAQ disagrees with the EPA's comment to require emission reductions over and above those already required in the CSAPR. It appears to be both an impractical and unnecessary requirement to address sources that the EPA elected to leave out of the federal trading program for the reasons cited earlier. Additionally, the requirement for a new state-level compliance mechanism puts the regulatory burden on states to address a subset of sources for which the continuation of a legacy program is unwarranted.

[5] On April 29, 2014 the U.S. Supreme Court ruled in EPA v. EME Homer City Generation that the EPA cannot require a State to reduce emissions more than necessary to achieve attainment or maintenance in downwind states. *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584 (2014), *reversing* 696 F. 3d 7 (D.C. Cir. 2012).

Based on further technical analysis related to the initial intent of the NOx SIP Call rulemaking and a thorough evaluation of the non-EGU emissions history, the DAQ has eliminated the comparison with EGUs to derive at surplus reductions described in the EPA FAQ document. Instead, the DAQ's final non-interference demonstration relies on a comparison of historical mass emissions to show that no emission reductions have been achieved from this group of sources and that no increase in emissions will occur in the future as a result of removing the NOx SIP Call requirements. The absence of an emissions increase eliminates the need for additional reductions to be compensated by other sources. To ensure the group's total NOx emissions remain below the NOx SIP Call non-EGU budget, the final SIP revision specifies the use of existing emissions reporting mechanisms contained in the sources' operating permits to conduct an annual evaluation by the DAQ.

The DAQ has also conducted a comparison of the non-EGU emission rates modeled in the NOx SIP Call ozone transport rulemaking and the CSAPR rulemaking. These emission rates are used in air quality modeling to identify upwind states with significant contributions that impact downwind state's ability to attain and maintain the ozone standard. The DAQ demonstrates that the historical emissions of non-EGUs are well below the modeled rates. The DAQ also demonstrates that the emission rate represented for non-EGUs in the CSAPR modeling is nearly identical to the modeled uncontrolled emission rate of the non-EGUs currently operating in North Carolina. Both of these analyses demonstrate non-interference with any of the NAAQS in North Carolina or downwind states.

4. The EPA commented that North Carolina's draft non-interference SIP did not clearly demonstrate that the non-EGU trading program requirements can be removed without impacting the State's ability to attain any criteria pollutant NAAQS, including the 2008 and the new 2015 ozone NAAQS.

   At the time of our draft submittal, the EPA had not finalized the 2015 ozone NAAQS. It is now finalized, but the EPA has not completed designations at this time. In this final submittal, the DAQ demonstrates that the removal of the non-EGU sector from the ozone season NOx trading program has no impact on attainment of the 2008 and the new 2015 ozone standards as well as other criteria pollutant NAAQS in North Carolina or downwind states.

1.3 Overview of North Carolina's Final Non-Interference Demonstration

1.3.1 Comparison with Historical Emissions

To evaluate emission trends before and after the implementation of the NOx SIP Call, the DAQ reviewed emissions measured at each affected non-EGU source starting in 2004 to the present.[6] The historical emissions were compared with the NOx SIP call budget and with 2015 emissions when the sources were removed from the federal trading program. Table 1-1 presents ozone season NOx emissions that were reported by the non-EGU facilities.

Table 1-1. Non-EGU NOx Emissions (Tons/Ozone Season)

Facility/Unit ID	2004*	2005*	2006*	2007	2008	2009	2010	2011	2012	2013	2014	2015
Blue Ridge Paper	762	940	848	930	968	918	1005	989	1149	1220	1135	1220
Domtar Paper	479	594	152	4	8	12						
International Paper	46	34	41	37								
Kapstone Paper	348	427	424	495	472	370	428	372	408	510	399	390
Weyerhaeuser	126	199	177	123	133	68	64	35	40	31	35	83
UNC Chapel Hill	144	249	253	158	168	158	181	184	169	113	88	110
Total	**1,906**	**2,442**	**1,896**	**1,747**	**1,749**	**1,526**	**1,679**	**1,580**	**1,765**	**1,873**	**1,657**	**1,804**

*Under the NOx SIP Call, North Carolina phased in non-EGU ozone season requirements. Partial compliance occurred in 2004 and full compliance occurred in 2006.

The historic average emissions from years 2004 through 2014 is 1,802 tons of NOx, which represents the emissions levels while the NOx SIP Call and CAIR trading programs were implemented. As shown in Table 1-2, the historical emissions are well below the NOx SIP Call budget of 2,446 tons.

Staring January 1, 2015, CSAPR became effective and the non-EGUs were no longer participating in the trading program. As shown in Table 1-1, the non-EGU ozone season emissions in 2015 did not increase above the NOx SIP Call budget of 2,446 tons, despite having no limits on emissions. The non-EGU sources continued to operate close to their 11-year historic levels. Both of these comparisons demonstrate that removing the non-EGU sources from the NOx SIP Call requirements will not cause an increase in emissions of NOx.

[6] Query performed on March 1, 2016 Air Markets Program Data (AMPD), U.S. EPA, https://ampd.epa.gov/ampd/.

Table 1-2. Comparison of Actual Ozone Season NOx Emissions with non-EGU Budget under the NOx SIP Call

Unit Type	Data Source	Period	Ozone Season NOx Emissions (tons)
non-EGUs	Actual Emissions - NOx SIP Call and CAIR implementation period	2004 - 2014	1,802 (avg)
	Actual Emissions*	2015*	1,804
non-EGUs	North Carolina NOx SIP Call Budget	2006 - 2007	2,446
* Period when non-EGUs were removed from the trading program and CSAPR Phase I budgets became effective.			

1.3.2 Comparison with Emissions Modeled in Transport Rules

Table 1-3 shows NOx emissions modeled for non-EGUs under the NOx SIP Call and the CSAPR trading programs. For the NOx SIP Call, the EPA modeled future year (2007) control case emissions at a rate of 2,523 tons per ozone season. For CSAPR, the EPA modeled future year (2014) control case emissions at 3,257 tons per ozone season. The EPA modeling serves to provide a foundation for the trading programs to ensure that the modeled NOx emissions, and the subsequent emission budgets based on the modeling analysis, do not negatively impact downwind states.

Table 1-3. Comparison of Modeled and Actual Ozone Season NOx Emissions for non-EGUs

Unit Type	Data Source	Period	Ozone Season NOx Emissions (tons)
non-EGUs	Actual Emissions*	2015*	1,804
non-EGUs	Future Year Control Case Modeled Emissions - NOx SIP Call	2007	2,523
	Future Year Control Case Modeled Emissions - CSAPR	2014	3,257
* Period when non-EGUs were removed from the trading program and CSAPR Phase I budgets became effective for EGUs.			

For North Carolina, the historical non-EGU emissions and the most recent emissions level of 1,804 tons in 2015, as shown earlier in Table 1-1, are well below the assumed controlled emissions used to develop both transport rules. The EPA's CSAPR modeling has demonstrated that 3,257 tons of NOx emissions from North Carolina's non-EGUs is sufficiently low to ensure

that there is no negative impact to downwind states from the potential transport of NOx from North Carolina non-EGUs. The 1,453 ton gap that is present between CSAPR modeled emissions versus 2015 actual emissions provides another demonstration that the removal of NOx SIP requirements will not interfere with the attainment and maintenance of the NAAQS in North Carolina and neighboring states.

A key aspect of CSAPR modeling is that the EPA assumed no growth in emissions from the non-EGU source sector. The EPA applied a growth rate of 1.00 to estimate 2014 future year emissions from 2005 base year actual emissions. The EPA's assumption is reasonable and consistent with North Carolina's position that emissions will remain relatively unchanged from this source sector. In fact, emissions from the largest non-EGU source (Blue Ridge Paper) will decrease by about 400 tons per ozone season, as the facility replaces two coal-fired boilers (units BB and PG) with natural gas-fired units in 2017 under a grant received through a 2014 state legislation[7,8]. The DAQ estimates a reduction of about 400 tons of NOx during each ozone season as a result of this conversion process. This will lower total non-EGU ozone season NOx emissions by about 22 percent relative to 2015 levels (i.e., 1,804 tons).

1.3.3 CSAPR Modeling Already Shows that Emissions from Active Non-EGUs will not Interfere with Attainment or Maintenance of NAAQS

As discussed earlier, only 11 active non-EGU units at four facilities remain operating due to retirements since the NOx SIP Call went into effect. The uncontrolled case emission rate that was modeled for these 11 active non-EGUs in the EPA's NOx Budget Trading Program was 3,279 tons (presented later in Table 2-2). The DAQ has discovered that in the CSAPR modeling, the EPA represented the entire non-EGU group at an emissions rate of about 3,257 tons. Since the uncontrolled case emissions for currently active units under the NOx SIP call is essentially equal to the rate modeled in the CSAPR, it can be implied that if the active non-EGUs operated at uncontrolled case levels, their emissions will not interfere with a downwind state's ability to attain or maintain the NAAQS.

Although the 11 non-EGU units are emitting NOx at much lower levels than the uncontrolled case emissions, the comparison above provides a numerical validation that the EPA seeks to assure that an increase in emissions will not interfere with the attainment and maintenance of NAAQS.

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[7] General Assembly of North Carolina, Session 2013, Session Law 2014-118, http://www.ncleg.net/Sessions/2013/Bills/Senate/PDF/S3v5.pdf.

[8] Job Maintenance and Capital Development Fund: Annual Report, FY 2014-2015, https://www.nccommerce.com/Portals/0/Incentives/JMAC-Annual-Report-%28FY14-15%29.pdf.

The DAQ fully expects the non-EGUs to continue operating and emitting NOx at the historical levels, and that their emissions will not increase anywhere close to the uncontrolled case levels. Nevertheless, the EPA's own modeling analysis under the CSAPR rulemaking provides a showing that even if the active non-EGUs increased emissions to their NOx SIP Call uncontrolled emission levels, North Carolina's non-EGUs would not be contributing to ozone transport issues.

Source Apportionment Modeling to Determine Non-EGU Contributions

Under a contract to the Southeastern States Air Resource Managers Inc. (SESARM), the Georgia Institute of Technology (Georgia Tech) is conducting a regional transport modeling analysis for ozone. The modeling is based on the 2011 EPA modeling platform used for the CSAPR Update Rule (80 FR 75706, December 3, 2015). The modeling platform includes emissions, meteorology and other inputs for 2011. The 2011 base year emissions were projected to a future year base case scenario, 2017. The photochemical model simulations performed for the EPA and Georgia Tech ozone transport assessments used the Comprehensive Air Quality Model with Extensions (CAMx version 6.11) (Environ, 2014).

For the Georgia Tech modeling, many of the SESARM states replaced the EPA's projected 2017 EGU NOx emissions with more accurate estimates for 2017. The Integrated Planning Model (IPM), used by EPA to project EGU emissions for 2017, improperly shut down several coal units in some southeastern states. These units were added back into the 2017 SESARM projection year inventory after confirming with the utilities that the units would not be shut down in 2017.

To assess the ozone contribution from each state, the CAMx model will be run using the CAMx Ozone Source Apportionment Technology/Anthropogenic Precursor Culpability Analysis (OSAT/APCA) technique (ENVIRON, 2014) to quantify the contribution of 2017 base case NOx and VOC emissions from all sources in each state to projected 2017 ozone concentrations at ozone monitoring sites. The sources are split into three categories: EGUs, large non-EGUs included in the NOx Budget Trading Program but excluded from the CSAPR, and "all other" anthropogenic sources. This source apportionment modeling will show the contribution of each category (as a group) to total ozone modeled for each monitor in the modeling domain. This modeling study will enable the DAQ to understand the relative contribution that the large non-EGU sources are expected to have on ozone concentrations at downwind monitors modeled in 2017.

The Georgia Tech modeling will be completed and its results made available in late summer 2016. The DAQ expects the modeling to show that the contributions from North Carolina's non-

EGUs are negligible or small enough to warrant no further action, since this sector represents only about 5 percent of North Carolina's ozone season NOx emissions from all point sources. The DAQ will submit a supplement to this SIP revision once these modeling results are finalized.

1.3.4 Monitoring, Reporting and Recordkeeping Requirements

As a part of both the transition guidance and TSD on the NOx SIP Call trading program, the EPA asserts that 40 CFR Part 75 monitoring requirements are still necessary for non-EGU sources. However, the EPA did not use the ozone season monitoring data for its CSAPR rulemaking process, and relied on annual emissions reported in the National Emissions Inventory (NEI) to represent non-EGU sources in the CSAPR air quality modeling analysis. Since the non-EGU monitoring data is no longer needed to determine compliance with the CSAPR, and the EPA does not deem it useful for air quality analysis for this sector, there is no arguable reason for maintaining the costly and burdensome Part 75 monitoring intended to ensure ozone season emissions levels are below the NOx SIP Call budget.

The DAQ is requesting to remove 40 CFR Part 75 monitoring, reporting and record keeping requirements for these units, and replace them with alternative methods that utilize existing applicable requirements contained in the non-EGU sources' current operating permits. Of the 11 active non-EGU sources, five report monthly NOx emissions under the PSD or PSD avoidance program, two report annual NOx emissions, and four report hourly NOx emissions using CEMs in accordance with 40 CFR Part 60, Appendix B. Starting with the 2016 ozone season, the DAQ commits to utilizing the alternative monitoring methods (described in Section 2.7) to calculate ozone season NOx emissions and to ensure the total remains below the NOx SIP Call budget of 2,446 tons.

1.4 Overview of Non-Interference with NAAQS

Based on the above demonstration that the removal of the NOx SIP Call requirements does not cause an increase in emissions of NOx, the DAQ is concluding that interference with North Carolina's or downwind states' ability to attain and maintain current and past ozone standards will not occur. No change in emissions is expected for other criteria pollutants, including SO_2, nitrogen dioxide (NO_2), particulate matter (PM), carbon monoxide (CO) or lead. The non-EGU ozone season NOx trading program did not limit emissions of these pollutants. An increase in other criteria pollutant emissions would only be due to an increase in the total heat input of the affected units during the summer months compared to historical. As discussed above, these sources did not increase their ozone season activity in 2015, after the trading program requirements were lifted. In addition, the conversion of two coal-fired boilers to natural gas at

Blue Ridge Paper will decrease SO_2 emissions in 2017. Therefore, the DAQ has demonstrated that no increase in emissions of other criteria pollutants will occur due to the removal of the non-EGU NOx SIP Call requirements.

The following statements summarize North Carolina's attainment status.

- All of North Carolina is designated by the EPA as in attainment or unclassifiable for the 1997 and 2008 8-hour ozone NAAQS. All ozone monitors are currently in attainment of these standards.
- The design values for 2013-2015 and 2014-2016 (as of July 5, 2016) ozone season are below the 70 parts per billion (ppb) 2015 8-hour ozone NAAQS for all of North Carolina.
- Stationary source NOx emissions in North Carolina will continue to decrease in the future with the retirement of two coal boilers at Blue Ridge Paper and two coal EGUs at Duke Energy's Asheville facility in 2019. These units will be replaced with cleaner burning natural gas units.
- All monitored areas in North Carolina are in attainment for the 2010 NO_2 NAAQS, 2010 SO_2 NAAQS, 2012 $PM_{2.5}$ NAAQS, and 2008 lead NAAQS.
- On December 9, 2015, North Carolina submitted a revision to North Carolina's Clean Air Act Section 110(a)(2)(D)(i)(I) "Good Neighbor" SIP for the 2008 Ozone Standard[9]. This document certifies that emissions activities within North Carolina will not significantly contribute to nonattainment or interfere with maintenance of the 2008 ozone NAAQS in a neighboring state. The EPA is currently considering this revision.
- North Carolina submitted SIP revisions to the EPA addressing transport of criteria pollutants under the "Good Neighbor" provision for the following NAAQS: 2010 1-hour SO_2, 2010 1-hour NO_2, and 2012 $PM_{2.5}$ annual. The EPA is currently considering this revision.

[9] Revision to North Carolina's Clean Air Act Section 110(a)(2)(D)(i)(I) "Good Neighbor" State Implementation Plan for the 2008 Ozone Standard, North Carolina Division of Air Quality, Submitted to the U.S. Environmental Protection Agency on December 9, 2015. http://deq.nc.gov/about/divisions/air-quality/air-quality-planning/state-implementation-plans/110i-infrastructure-certifications/2008-8-hour-ozone-110a-infrastructure-certification

1.5 Conclusions

With this non-interference demonstration, the DAQ concludes that North Carolina can remove the NOx SIP Call non-EGU ozone season emissions monitoring, recordkeeping and reporting requirements associated with 40 CFR Part 75 while not interfering with attainment or maintenance of the NAAQS in North Carolina or any downwind states. The DAQ relies on the EPA's own analysis that the non-EGU trading program did not reduce emissions and that emissions from this group of sources have remained unchanged for eleven years. The DAQ has also demonstrated that the emissions during the 2015 ozone season are similar to historical levels and significantly well below the NOx SIP Call budget, despite the removal of non-EGU sources from the federal CSAPR trading program in 2014. To ensure the non-EGU ozone season emission total remains below the NOx SIP Call budget of 2,446 tons, the DAQ commits to annual monitoring and reporting of emissions from this source sector through other applicable state and federal requirements.

The DAQ also reviewed the EPA's NOx SIP Call budget trading program and CSAPR modeling input files and determined that the emissions modeled for non-EGUs are well above the historical non-EGU emission levels, including the latest 2015 ozone season emissions total. Since the EPA's modeling concluded that the higher modeled emission rates for non-EGUs do not significantly contribute to ozone attainment or maintenance issues to a downwind state, it can be concluded that the lower historical emission levels will also not cause interference.

The DAQ has also demonstrated that the emissions total for the non-EGUs as a group in the CSAPR modeling is nearly identical to the uncontrolled case emission rate of the 11 active non-EGUs as used in the NOx SIP Call ozone transport rulemaking. This means that inherent in the EPA's own transport modeling, the agency has demonstrated that if North Carolina's non-EGUs' emissions were to increase at a level at or near the uncontrolled case rate, their contribution to downwind transport issues would not be significant. This further supports the fact that there is no practical reason for the state to adopt additional measures for other sources to offset emissions from non-EGUs.

2.0 NON-EGU NOX SIP CALL TRANSITION

2.1 EPA's Guidance on non-EGU NOx SIP Call Transition

Under the EPA's CSAPR, non-EGU sources are no longer allowed to participate in a federal NOx trading program. The EPA issued a brief "frequently asked questions" document outlining its approach to the trading program transition on the CSAPR website in a section titled "NOx SIP Call Transition for Large non-EGUs". In this document, the EPA states that "*CSAPR does not preempt or replace the requirements of the NOx SIP Call*" and that the NOx SIP Call budgets remain in place for non-EGU sources. While the sources no longer have a federally enforceable NOx trading program, the EPA is requiring that states demonstrate compliance with the non-EGU budget specified in the NOx SIP Call. This approach complicates an air agency's ability to transition these sources into a new state-only program, especially for states whose general statutes limit environmental regulations to be only as stringent as federal requirements.

The EPA proposed three options for demonstrating that NOx emissions reductions achieved by non-EGU sources under the NOx SIP Call will be maintained in future years even though these sources no longer have a NOx trading program. Option 1 requires a demonstration that the potential to emit from the remaining affected sources using current NOx emission rates is below the state-level budget for these sources under the NOx SIP Call. Under Option 2, the EPA is requiring States to develop an enforceable alternative reduction requirement for these sources. The alternate requirement could involve a unit specific emission limit, rate limit or operating limit. This alternative cannot involve what the EPA deemed the most cost effective control method – a trading program. Therefore, the control strategies suggested by the EPA could be more stringent and potentially more costly than what was required under the NOx SIP Call. Also note that under both Option 1 and Option 2, the affected sources must continue to meet the state-level NOx budgets and monitor emissions according to 40 CFR Part 75.

Option 3 is the only remedy which removes state-level emissions limits by showing that other sources covered by the NOx SIP Call will achieve surplus, permanent, enforceable, and contemporaneous emission reductions above what is currently required of these other sources under the CSAPR. This demonstration must show that the alternate reductions would offset the non-EGU modeled NOx reductions under the NOx SIP Call. The EPA also recommends that Part 75 monitoring requirements be retained for all non-EGUs.

2.2 North Carolina's Interpretation of the non-EGU NOx SIP Call Transition

The DAQ has reviewed the EPA's guidance on transitioning the non-EGU sources and has allocated significant resources over the past 1.5 years to develop a remedy that is lawful, reasonable, and practical. The DAQ does not find it necessary to 1) "transition" these sources into a new control program, or 2) offset the NOx SIP Call emission reductions by establishing equivalent enforceable reductions through another SIP requirement for the following reasons.

First, the EPA has already demonstrated that the state-level NOx SIP Call emission budgets for the non-EGUs are unnecessary. To justify the removal of non-EGUs from the CSAPR trading program, the EPA performed an analysis which had two primary conclusions.[10] One conclusion was that non-EGUs met their state-level NOx budgets primarily through decreased operations and retirements, rather than through installing controls. This is the case for North Carolina, where 2,881 tons (79%) of the EPA estimated NOx reduction level of 3,638 tons are due to the retirement of nine non-EGU units. The EPA analysis also indicates there was no significant decrease in NOx emissions from the non-EGU sector as a result of the NOx SIP Call trading program. In the preamble to the CSAPR final rulemaking, the EPA stated that its *"analysis shows that, as a group, these units did not collectively reduce emissions, their current emission rates are nearly identical to their emission rates before the start of the NOx Budget Trading Program…"* So if, as a whole, the NOx SIP Call had no impact on NOx emissions from the non-EGU sector, then there is no need for states to continue monitoring emissions using the costly and burdensome Part 75 method to track emissions at the level of accuracy needed to support a trading program, especially since the EPA has excluded these sources from any trading program. The DAQ does not deem it necessary to continue requiring sources to employ expensive monitoring methods for an old rule that the EPA has stated had no impact in the past and will have no impact in the future.

The equipment life of the CEMS is approximately 10 years. Several of the non-EGU facilities in North Carolina have stated that their CEMS require replacement. The cost of maintaining or replacing the CEMS on the non-EGUs to comply with Part 75 monitoring requirements under the trading program was not considered by EPA. The EPA states in the CSAPR preamble that the agency *"believes that there are little or no emission reductions available by non-EGUs at the cost thresholds used in the final rule and so no basis for developing non-EGUs state budgets reflecting the elimination of significant contribution to nonattainment and interference with*

[10] EPA, "Technical Support Document for the Transport Rule, Analysis of NOx Budget Trading Program Units Brought into the CAIR NOx Ozone Season Trading Program," July 2010.

maintenance." The EPA should have recognized under the CSAPR rulemaking that continuing the monitoring requirements for non-EGU sources is over burdensome and costly to the facilities. Secondly, requiring North Carolina to develop mechanisms to enforce a CEMS program for non-EGUs outside of a federal requirement is difficult and costly for the air quality agency as well. The cost and complexity of hourly NOx monitoring for non-EGUs is not justified given that the EPA has deemed maintaining a NOx control program for these sources unnecessary at the cost thresholds of the CSAPR. The EPA's approach transfers the cost of this new state-level control and monitoring program for non-EGUs to the states in its FAQ document on the CSAPR rulemaking. The DAQ believes that reasonable and practical mechanisms are in place to utilize alterative monitoring, recordkeeping, and reporting programs to assure compliance with the NOx SIP Call budget.

Third, the EPA has stated that in order to remove non-EGU requirements, the state must derive equivalent emission reductions from other sources that are above and beyond the CSAPR budget. This requirement appears to be unnecessary, extremely impractical and costly. In North Carolina's case, the EPA is suggesting the state to come up with 3,638 tons of reductions[11] from other sources in an era when all major source sectors are relatively well controlled, and significant reductions in NOx emissions have occurred over the last 15 years to comply with more stringent criteria pollutant standards. As a comparison, the entire EGU sector in North Carolina emitted 16,070 tons per ozone season in 2015. The EPA is essentially suggesting North Carolina to reduce EGU emissions by 23%, a major undertaking that is equivalent to shuttering one base-loaded coal unit. Such impacts should not be forced upon a state through a one page FAQ guidance document. Instead, a formal rulemaking process should be initiated to evaluate technically feasible and cost effective options.

Lastly, the requirement to reduce modeled NOx emission reductions under the NBP, 3,638 tons, was made, despite the EPA deeming the CSAPR NOx budget for North Carolina adequate to address the transport obligations under the 1997 ozone standard.

2.3 Demonstration that non-EGU Emissions Have Not Changed

The DAQ reviewed the actual emissions measured at each non-EGU by performing a query of EPA's Air Markets Program Database[12]. Table 2-1 presents the NOx emissions during ozone season that were reported by the non-EGU sources starting in 2004 to the present. Under the

[11] Modeled by the EPA as the difference between non-EGU uncontrolled and controlled emissions in the NOx SIP Call rulemaking.

[12] Query performed on March 1, 2016 Air Markets Program Data, U.S. EPA, https://ampd.epa.gov/ampd/.

NOx SIP Call, the ozone season requirements for North Carolina's non-EGUs were phased in between 2004 and 2006 in a two-step approach. Due to this phased-in approach, North Carolina non-EGUs were required to comply with partial reductions by 2004 and the full reductions by 2006.

Both affected units at Domtar were retired after 2009 and the affected units at International Paper Riegelwood were retired after 2007. The currently active non-EGU sources include the units at Blue Ridge Paper, Kapstone Kraft Paper, Weyerhaeuser New Bern, and the University of North Carolina.

The historic average ozone season NOx emissions from years 2004 to 2014 is 1,802 tons. As a group, the emissions of non-EGU sources have remained relatively unchanged and are nearly identical to their emission rates before the start of the NOx SIP Call and the CAIR. This finding is consistent with the EPA's statement in the CSAPR rulemaking, which also supports that these sources as a group did not actually reduce emissions. The non-EGU ozone season emissions during 2015 were 1,804 tons, which is the first year when the affected non-EGUs were excluded from the federal trading program. Both the historic average and 2015 emission levels are well below North Carolina's NOx SIP Call budget of 2,446 tons for non-EGUs[13]. The fact that emissions in 2015 were very close to their 11-year historic levels demonstrates that removing NOx SIP Call requirements will not cause an increase in emissions of NOx.

[13] U.S. EPA Air Markets Program Data, http://ampd.epa.gov/ampd

Table 2-1. Non-EGU NOx Emissions (Tons/Ozone Season)

Facility/Unit ID	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Blue Ridge Paper	**762**	**940**	**848**	**930**	**968**	**918**	**1005**	**989**	**1149**	**1220**	**1135**	**1220**
B4	152	178	126	198	180	183	196	173	188	186	199	224
BB	131	160	168	148	143	152	176	169	188	198	180	214
PG	134	190	165	174	171	165	191	221	269	224	223	176
RB	154	226	163	168	212	209	162	185	180	263	228	232
RC	191	186	226	242	261	210	280	241	324	349	305	375
Domtar Paper	**479**	**594**	**152**	**4**	**8**	**12**						
1 (retired)	476	590	151									
9 (retired)	4	4	1	4	8	12						
International Paper	**46**	**34**	**41**	**37**								
3 (retired)	46	34	41	37								
Kapstone Paper	**348**	**427**	**424**	**495**	**472**	**370**	**428**	**372**	**408**	**510**	**399**	**390**
1	348	427	424	495	472	370	428	372	408	510	399	390
Weyerhaeuser	**126**	**199**	**177**	**123**	**133**	**68**	**64**	**35**	**40**	**31**	**35**	**83**
6	99	133	138	116	102	62	42	15	30	20	25	30
105	27	65	39	8	32	7	22	20	10	11	10	53
UNC Chapel Hill	**144**	**249**	**253**	**158**	**168**	**158**	**181**	**184**	**169**	**113**	**88**	**110**
ES001	82	113	138	77	64	74	106	89	86	63	30	61
ES002	62	136	115	81	104	84	75	95	83	50	56	49
ES003	0.6	0.0	0.2	0.5	0.5	0.3	0.2	0.1	0.4	0.1	1.4	0.1
Total	**1,906**	**2,442**	**1,896**	**1,747**	**1,749**	**1,526**	**1,679**	**1,580**	**1,765**	**1,873**	**1,657**	**1,804**
Active Units	**1,381**	**1,814**	**1,702**	**1,707**	**1,741**	**1,514**	**1,679**	**1,580**	**1,765**	**1,873**	**1,657**	**1,804**

2.4 Demonstration that non-EGU Emissions Are Below NOx SIP Call Modeled Emissions

The DAQ reviewed the NOx emission reductions expected to occur as a result of the NOx SIP Call budget trading program.[14] The EPA identified 14 units as affected non-EGU units as well as 3 units at the University of North Carolina, which were initially considered affected EGUs. For the rulemaking, the EPA modeled the application of various NOx controls to these units based on the unit size, unit type, fuel type, and source sector. Table 2-2 presents emission rates modeled for the trading program which established emission budgets to reduce significant contributions to nonattainment and maintenance problems to a downwind state. Since the 2,523 tons per ozone season modeled to represent the 2007 future control case is well above the 1,802 ton per ozone

[14] Final Section 126 Petition Rulemaking Non-Electric Generating Unit Cost Analysis (Based on Findings Related Only to the 1-Hour Ozone NAAQS), Prepared for Innovative Strategies and Economics Group, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, Prepared by Pechan-Avanti Group, September 1999.

season historical average and the 1,804 tons emitted in 2015, DAQ concludes that emissions associated with North Carolina's non-EGUs will not interfere with attainment or maintenance of the NAAQS in downwind states.

Table 2-2. NOx Budget Trading Program Modeled Emission Rates for non-EGUs (Tons/Ozone Season)

Former Name	New Name	Current Status	1995 Inventory	2007 Uncontrolled Case	2007 Control Case*
Champion Inter Corp	Blue Ridge Paper	**Active**	1,440	2,030	812
Champion Inter-Roanoke Rapids	Kapstone-Roanoke Rapids	**Active**	625	837	335
Weyerhaeuser - New Burn	Weyerhaeuser - Vanceboro	**Active**	198	292	117
University of North Carolina		**Active**	120	120	106
International Paper - Riegelwood		Retired	507	746	298
Weyerhaeuser- Plymouth	Domtar	Retired	1,078	1,445	578
Cone Mill - White Oak		Retired	125	175	70
Fieldcrest		Retired	200	280	112
FMC Corp Lithium		Retired	210	237	95
Total – All Units			**4,503**	**6,162**	**2,523**

*The EPA estimated an average control efficiency of 60 percent for the non-EGU source category. The sources also had the option of purchasing allowances rather than installing NOx controls. The total amount of emissions reductions that were assumed to result from the NOx SIP Call was 3,638 tons per ozone season (the difference between 2007 uncontrolled case and control case) for non-EGUs.

2.5 Demonstration that non-EGU Emissions Are Below CSAPR Modeled Emissions

As stated previously, the current ozone season NOx trading program promulgated by the EPA is CSAPR which became effective on January 1, 2015. The large non-EGUs are not affected units under this rule. In addition, these sources do not have the ability to opt-in to the trading program as they did under CAIR. However, the EPA did include non-EGUs in its ozone transport modeling of the CSAPR.[15]

[15] Technical Support Document (TSD) for the Final Transport Rule; Emissions Inventory Final Rule TSD, U.S. Environmental Protection Agency, Office of Air and Radiation, Office of Air Quality Planning and Standards, Air Quality Assessment Division, June 28, 2011.

For its CSAPR analysis, the EPA utilized annual NOx emissions obtained from the 2005 NEI version 2 to represent emissions for non-EGUs. The EPA assumed that since the NOx SIP Call compliance date was in 2004, the 2005 NEI included all emissions reductions resulting from the trading program. However, in North Carolina this was not true since North Carolina's NOx SIP Call Rules phased in the budgets for the non-EGUs from 2004 to 2006. The EPA also assumed in its analysis that the non-EGUs had no growth in activity from the 2005 base year to the projection year of 2014. Lastly, the EPA assumed no additional control of NOx emissions from this sector. Therefore, for the non-EGU sector, annual NOx emissions from these units for the 2005 base year, the 2014 base case and the 2014 control case were all assumed to be equal.

Table 2-3 presents the data obtained from the CSAPR Emission Inventory Technical Support Document for North Carolina. It presents 2005 NEI annual emissions for the affected units in North Carolina. The DAQ estimated 2005 ozone season emissions by scaling the annual emissions in proportion to the fraction of time represented by the ozone season. This is a reasonable assumption since non-EGUs represent the manufacturing sector whose operations are distributed relatively equally throughout an operating year.

Table 2-3. CSAPR Modeled NOx Emission Rates for non-EGUs

Facility/Unit ID	2005 NEI (tons/yr)	2005 Estimated Ozone Season (tons/ozone season)	2014 Control Case (tons/ozone season)
Blue Ridge Paper	**2,581**	**1,076**	**1,076**
G-24	518	216	216
G-25	667	278	278
G-26	465	194	194
G-65	523	218	218
G-66	408	170	170
Domtar	**3,040**	**1,267**	**1,267**
G-140 (retired)	3,024	1,260	1,260
G-156 (retired)	16	7	7
International Paper-Riegelwood	**147**	**61**	**61**
G-73 (retired)	147	61	61
Kapstone	**980**	**408**	**408**
G-12	980	408	408
Weyerhaeuser	**484**	**202**	**202**
G-42	154	64	64
G-52	330	137	137
University of North Carolina	**586**	**244**	**244**
G-61	279	116	116
G-62	306	127	127
G-63	1	1	1
Total – All Units	**7,818**	**3,257**	**3,257**

The 2014 control case ozone season NOx emissions used in the CSAPR modeling for North Carolina's non-EGUs was 3,257 tons, which is significantly higher than the 1,802 tons historical average and 1,804 tons emitted in 2015. The large gap between the modeled emission rate and actual emissions supports that North Carolina's non-EGUs will not interfere with attainment or maintenance of the NAAQS in downwind states.

2.6 Demonstration that North Carolina's Active non-EGUs Have Shown to Not Interfere in EPA's CSAPR Modeling

The DAQ has discovered that by representing non-EGU emissions at a rate of 3,257 tons in CSAPR modeling, the EPA has inherently demonstrated non-interference for active non-EGUs. As shown earlier in Table 2-2, the uncontrolled case emissions for currently active units under the NOx SIP Call is 3,279 tons. This is essentially equal to the rate modeled in CSAPR, showing that if the remaining non-EGUs operated at uncontrolled case levels, their emissions will not interfere with a downwind state's attainment or maintenance of the NAAQS. Although, the DAQ fully expects the non-EGUs to continue operating and emitting NOx at the historical levels, the EPA's own modeling analysis under the CSAPR shows that even if the active non-EGUs increased emissions to their NOx SIP Call uncontrolled emission levels, North Carolina's non-EGUs would not be contributing significantly to ozone transport issues.

2.7 Removal of Part 75 Requirements and Replacement with Alternative Methods

In the non-EGU transition requirement FAQ document, the EPA claims to require hourly CEMS data for future rulemaking. However, when developing both the CSAPR and the CSAPR Update Proposed rulemakings, the EPA did not use the hourly or even the total ozone season CEMS data for non-EGUs. The EPA used the annual NEI data for its ozone transport rulemaking. Since the non-EGU monitoring data is no longer needed to determine compliance with CSAPR, and the EPA does not deem it useful for air quality analysis for this sector, there is no arguable reason for maintaining the costly and burdensome Part 75 monitoring intended to ensure ozone season emissions levels are below the NOx SIP Call budget.

The DAQ is requesting to remove 40 CFR Part 75 monitoring, reporting and record keeping requirements for these units, and replace them with alternative methods that utilize existing applicable requirements contained in the current operating permit of the non-EGU source. Table 2-4 shows the applicable NOx regulation and the associated monitoring requirements that would serve as the alternative method of determining ozone season NOx emissions total for the non-

EGUs. Starting with the 2016 ozone season, the DAQ commits to calculate ozone season NOx emissions and assure that the total for the non-EGU group remains below the NOx SIP Call budget of 2,446 tons.

Table 2-4. Monitoring Requirements for Active non-EGUs

Facility	Unit	Applicable Rule	Monitoring Requirements	Alternative Method Replacing NOx SIP Call Part 75 Requirements
Blue Ridge	Big Bill (G11037)	40 CFR 52.21 Prevention of Significant Deterioration (PSD)	Total monthly NOx emissions[1]	Ozone season total calculated as sum of emissions from May 1 through September 30
	Peter G. (G11038)			
	Riley Coal (G11039)			
	No. 4 Power (G11040)			
	Riley Bark (G11042)	15A NCAC 2D .0519	Annual NOx emissions[1]	Ozone season total calculated as 5/12 of annual emissions
Kapstone	No. 1 Power (ES-11-CU-001)	15A NCAC 2D .0519	Annual NOx emissions[1]	Ozone season total calculated as 5/12 of annual emissions
Weyerhaeuser	No. 1 Power (ES 150-001)	15A NCAC 02Q .0317 (Avoidance Condition for PSD)	Total monthly NOx emissions[1]	Ozone season total calculated as sum of emissions from May 1 through September 30
	No. 2 Power (ES 161-001)	40 CFR 60, Subpart Db	CEM for NOx in accordance with 40 CFR Part 60, Appendix B	Ozone season total calculated from hourly CEM data as sum of emissions from May 1 through September 30
University of North Carolina	Coal ES-001-Boiler #6	40 CFR 60, Subpart Db	CEM for NOx in accordance with 40 CFR Part 60, Appendix B	Ozone season total calculated from hourly CEM data as sum of emissions from May 1 through September 30
	Coal ES-002-Boiler #7			
	Oil ES-003-Boiler #8			

[1] Based on emission factors developed from historic CEMS data and fuel use or steam production. Note that the Big Bill and Peter G. coal units will be replaced by natural gas units in 2019.

3.0 NON-INTERFERENCE WITH NAAQS

3.1 Non-Interference with Ozone NAAQS

No change in emissions is expected as a result of removing the Part 75 NOx SIP Call requirements. Therefore, the impact on ozone formation in North Carolina and the transport of ozone precursor to downwind states will not interfere with the state's ability to attain and maintain the ozone NAAQS.

All of North Carolina is designated attainment of the 1997 and 2008 8-hour ozone NAAQS. The new 2015 8-hour ozone NAAQS is 70 ppb. Based on ozone ambient monitoring data from 2013 through 2015, all of North Carolina is in attainment of the 2015 8-hour ozone standard as shown in Figure 3-1. The most recent 3-year design value (2014-2016, as of July 5, 2016) is also below 2015 ozone standard.

North Carolina has seen a decrease in NOx emissions, especially from the EGU sector, since the CSAPR was finalized in 2011. Between 2010 and 2014, over 3,000 MW of coal-fired capacity retired and NOx emissions reduced by over 30 percent. Figure 3-2 presents North Carolina's NOx annual emissions from 2011 to 2014 when the retirement of the coal units was complete. Additional coal units are expected to retire in 2019 at the Duke Energy Ashville Facility. Figure 3-2 shows the projected emissions from the EGU sector.

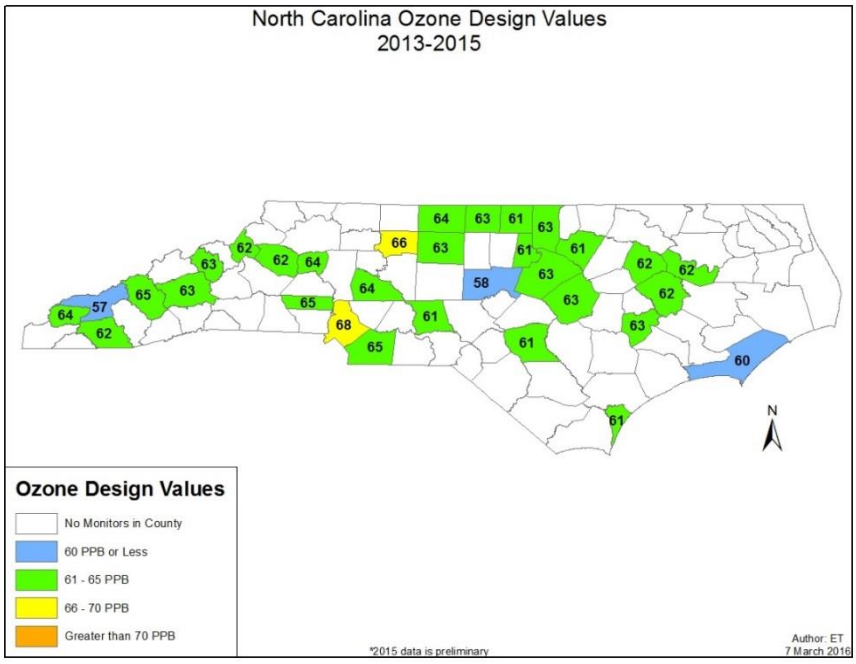

Figure 3-1. North Carolina 8-Hour Ozone Design Values for 2013 to 2015

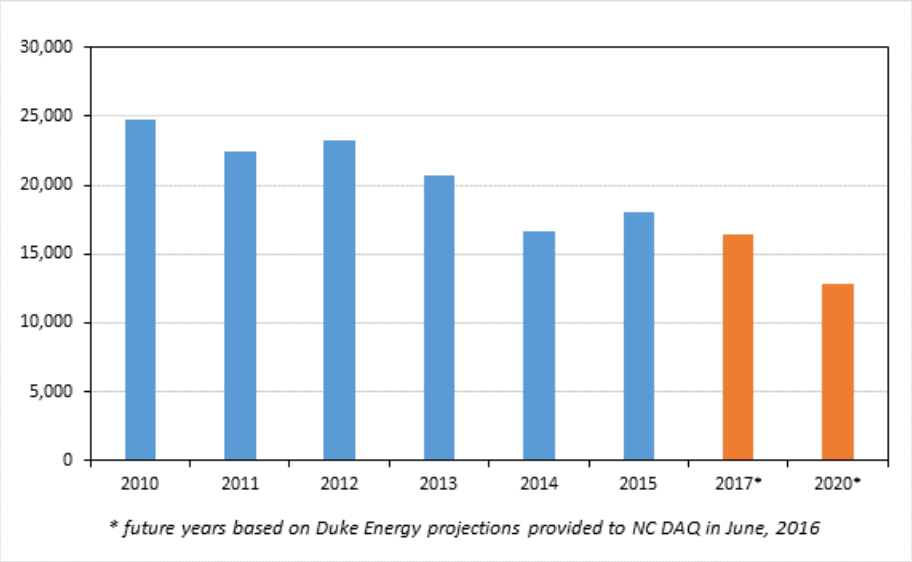

Figure 3-2. Total EGU NOx Emissions (tons/ozone season)

North Carolina is also expected to realize reductions in NOx emissions from the non-EGU sector in the coming years. The North Carolina General Assembly recently passed legislation to fund projects in the manufacturing sector to enhance pollution control or transition a manufacturing process from coal to natural gas for the purpose of becoming more energy efficient or reducing emissions (S.L. 2014-118). Blue Ridge Paper was awarded a Job Maintenance and Capital Development grant on December 19, 2014 "to support conversion of critical equipment and allow the company to comply with Federal EPA regulations." As a result of this action, units BB and PG will be converted to natural gas in 2017. The DAQ estimates a reduction of about 400 tons of NOx during each ozone season due to this conversion process. Total non-EGU ozone season NOx emissions are expected to be reduced by about 22 percent relative to the 2015 levels (i.e., 1,804 tons).

On December 9, 2015, North Carolina submitted a revision to North Carolina's Clean Air Act Section 110(a)(2)(D)(i)(I) "Good Neighbor" SIP for the 2008 Ozone Standard[16]. This document certifies that, based on currently available emissions and air quality modeling data, emissions activities within North Carolina will not significantly contribute to nonattainment or interfere with

[16] Revision to North Carolina's Clean Air Act Section 110(a)(2)(D)(i)(I) "Good Neighbor" State Implementation Plan for the 2008 Ozone Standard, North Carolina Division of Air Quality, Submitted to the U.S. Environmental Protection Agency on December 9, 2015.

maintenance of the 2008 ozone NAAQS in a neighboring state. The EPA is currently considering this revision.

3.2 Non-Interference with Other NAAQS

The purpose of the NOx SIP Call for non-EGUs was to reduce NOx emissions and ozone formation and transport that may result in an exceedance of the ozone NAAQS in North Carolina or any downwind states. The NOx SIP Call for non-EGU sources did not set requirements that address an exceedance of any other NAAQS, including nitrogen dioxide (NO_2), SO_2, particulate matter (PM), carbon monoxide (CO) or lead. For the reasons cited earlier, no change in emissions is expected for the other criteria pollutions.

All monitored areas in North Carolina are in attainment for the 2010 NO_2 NAAQS, 2010 SO_2 NAAQS, 2012 $PM_{2.5}$ and lead NAAQS. North Carolina has submitted SIP revisions addressing transport of criteria pollutants under the "Good Neighbor" provision for the PM2.5, SO_2, and NO_2 NAAQS. These SIPs certify that emissions from North Carolina sources will not significantly contribute to nonattainment or interfere with maintenance NAAQS in a neighboring state. In addition, the conversion of two coal-fired boilers to natural gas at Blue Ridge Paper will decrease SO_2 emissions in 2017.