



6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 81

[EPA-R04-OAR-2015-0275; FRL-9931-28-Region 4]

Approval and Promulgation of Implementation Plans and Designation of Areas; North Carolina; Redesignation of the Charlotte-Rock Hill, 2008 8-Hour Ozone Nonattainment Area to Attainment

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is taking three separate final actions related to a state implementation plan (SIP) revision submitted by the State of North Carolina, through the North Carolina Department of Environment and Natural Resources, Department of Air Quality (NC DAQ), on April 16, 2015. These final actions are for the North Carolina portion of the bi-state Charlotte-Rock Hill, North Carolina-South Carolina 2008 8-hour ozone nonattainment area (hereinafter referred to as the “bi-state Charlotte Area” or “Area”). The bi-state Charlotte Area consists of Mecklenburg County in its entirety and portions of Cabarrus, Gaston, Iredell, Lincoln, Rowan and Union Counties, North Carolina; and a portion of York County, South Carolina. Regarding South Carolina’s request to redesignate the South Carolina portion of the Area and its maintenance plan for the 2008 8-hour ozone NAAQS, EPA will address this in a separate action. In the three actions for the North Carolina bi-state

Charlotte Area, EPA determines that the bi-state Charlotte Area is attaining the 2008 8-hour ozone National Ambient Air Quality Standards (NAAQS); approves and incorporates the State's plan for maintaining attainment of the 2008 8-hour ozone standard in the Area, including the 2014 and 2026 sub-area motor vehicle emission budgets (MVEBs) for nitrogen oxides (NO_x) and volatile organic compounds (VOC) for the North Carolina portion of this Area into the SIP; and redesignates the North Carolina portion of the bi-state Charlotte Area to attainment for the 2008 8-hour ozone NAAQS. Additionally, EPA finds the 2014 and 2026 sub-area MVEBs for the North Carolina portion of the bi-state Charlotte Area adequate for the purposes of transportation conformity.

DATES: This rule will be effective [insert date 30 days after date of publication in the Federal Register].

ADDRESSES: EPA has established a docket for this action under Docket Identification No. EPA-R04-OAR-2015-0275. All documents in the docket are listed on the www.regulations.gov Web site. Although listed in the index, some information may not be publicly available, i.e., Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy at the Air Regulatory Management Section (formerly the Regulatory Development Section), Air Planning and Implementation Branch (formerly the Air Planning Branch), Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. EPA requests that if at all possible, you contact the person listed

in the **FOR FURTHER INFORMATION CONTACT** section to schedule your inspection.

The Regional Office's official hours of business are Monday through Friday, 8:30 a.m. to 4:30 p.m., excluding Federal holidays.

FOR FURTHER INFORMATION CONTACT: Sean Lakeman of the Air Regulatory Management Section, Air Planning and Implementation Branch, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. Mr. Lakeman may be reached by phone at (404) 562-9043 or via electronic mail at lakeman.sean@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Background for Final Actions

On May 21, 2012, EPA designated areas as unclassifiable/attainment or nonattainment for the 2008 8-hour ozone NAAQS that was promulgated on March 27, 2008. *See* 77 FR 30088. The bi-state Charlotte Area was designated as nonattainment for the 2008 8-hour ozone NAAQS and classified as a marginal nonattainment area. On April 16, 2015, NC DAQ requested that EPA redesignate the North Carolina portion of the Area to attainment for the 2008 8-hour ozone NAAQS and submitted a SIP revision containing the State's plan for maintaining attainment of the 2008 8-hour ozone standard in the Area, including the 2014 and 2026 MVEBs for NO_x and VOC for the North Carolina portion of the bi-state Charlotte Area. In a notice of proposed rulemaking (NPR) published on May 21, 2015, EPA proposed to determine that the bi-state Charlotte Area is attaining the 2008 8-hour ozone NAAQS; to approve and incorporate into the North Carolina SIP the State's plan for maintaining attainment of the 2008 8-hour ozone

standard in the Area, including the 2014 and 2026 MVEBs for NO_x and VOC for the North Carolina portion of the bi-state Charlotte Area; and to redesignate the North Carolina portion of the Area to attainment for the 2008 8-hour ozone NAAQS. *See* 80 FR 29250. In that document, EPA also notified the public of the status of the Agency’s adequacy determination for the subarea NO_x and VOC MVEBs for the North Carolina portion of the bi-state Charlotte Area. The details of North Carolina’s submittal and the rationale for EPA’s actions are further explained in the NPR. *See* 80 FR 29250 (May 21, 2015).

II. EPA’s Responses to Comments

EPA received two sets of comments on its May 21, 2015, proposed rulemaking actions. Specifically, EPA received adverse comments from the Sierra Club (“Commenter”) and comments supporting the proposed actions from one member of the general public.¹ Full sets of these comments are provided in the docket for this final action. *See* Docket number EPA-R04-OAR-2015-0275. A summary of the adverse comments and EPA’s responses are provided below.

Comment 1: The Commenter asserts that North Carolina experienced “abnormally cool weather” during the summers of 2013 and 2014 “that reduced the likelihood of ozone formation” and that the design values for the Area would have exceeded the 2008 8-hour ozone standard “but for the uncharacteristically cool summers in 2013 and 2014.” Therefore, the Commenter believes that EPA “should decline to issue the requested attainment determination for the Area.”

¹ The supporting comments state that the 2012-2014 three-year average “support[s] attainment” and that the “[p]rojected NO_x shows decreases in all categories over the next decade, so even if the predicted large projected decreases in on-road NO_x are not met the area should still see an overall decrease in ozone levels.”

Response 1: EPA disagrees with the Commenter's position that weather should impact EPA's determination that the area has attained the NAAQS pursuant to CAA section 107(d)(3)(E)(i). That factual determination is based solely on air quality monitoring data and on the Agency's evaluation of that data's compliance with 40 CFR part 50, appendix P. Therefore, weather conditions, including any alleged resulting changes in energy demand, are irrelevant in determining whether an area is factually attaining a NAAQS.

Under EPA regulations at 40 CFR part 50, the 2008 8-hour ozone NAAQS is determined by calculating the three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentrations at an ozone monitor, also known as a monitor's design value. *See* 40 CFR part 50, appendix P. When the design value is less than or equal to 0.075 parts per million (ppm) at each monitor within the area, then the area is attaining the NAAQS. The data completeness requirement for evaluating monitoring data for NAAQS attainment is met at each monitor when the average percent of days with valid ambient monitoring data is greater than or equal to 90 percent and no single year has less than 75 percent data completeness as defined in appendix P of 40 CFR part 50. Monitoring data must also be collected and quality-assured in accordance with 40 CFR part 58 and recorded in the EPA's Air Quality System (AQS).

EPA's analysis of monitoring data in the bi-state Charlotte Area supports its determination under section 107(d)(3)(E)(i) that the Area has attained the 2008 8-hour ozone NAAQS. The design values for each monitor in the Area for the years 2012-2014 are less than or equal to 0.075 ppm, and the data from these monitors during this time period meet the data quality and completeness requirements and are recorded in AQS. Therefore, the bi-state

Charlotte Area has attained the 2008 8-hour ozone NAAQS in accordance with 40 CFR part 50, appendix P requirements.

Comment 2: The Commenter believes that EPA should disapprove North Carolina's redesignation request because "neither EPA nor DAQ has demonstrated that the recording of a design value below 75 ppb [parts per billion] for the years 2012–2014 is 'due to permanent and enforceable reductions'" as required by CAA section 107(d)(3)(E)(iii). According to the Commenter, EPA and NC DAQ cannot make this demonstration because "but for the uncharacteristically cool summers in 2013 and 2014, a design value above 75 ppb would have been recorded." The Commenter also contends that the "uncharacteristically cool summers in 2013 and 2014" resulted in "unusually low monthly total consumption of electric power" and "starkly lower capacity factors" from Duke Energy's GG Allen and Marshall power plants during those summers and notes that "operation of these plants significantly impacts total NO_x emissions and, thus, overall ozone levels."² Despite the alleged decrease in the capacity factors at these two EGUs, the Commenter states that "the plants still tend to run at a significantly higher capacity factor on peak ozone days."

Response 2: Weather effects are not controllable, and weather is just one of the parameters that allow for ozone formation. EPA does not disagree with the Commenter that ozone season temperatures and precipitation are two readily available parameters that can be used to evaluate the potential weather impacts on ozone concentrations. Ozone is more readily formed on warm,

² The GG Allen plant is located in the portion of Gaston County that is included in the nonattainment area. The Marshall plant is located in Catawba County and is not located within the nonattainment area. During the nonattainment designation in 2012, sources in Catawba County were not found to contribute to violations of the 2008 8-hour ozone NAAQS in the bi-state Charlotte Area. *See* http://www.epa.gov/ozonedesignations/2008standards/documents/R4_Charlotte_TSD_Final.pdf.

sunny days when the air is stagnant. Conversely, ozone production is generally more limited when it is cloudy, cool, rainy, or windy.³ However, although EPA agrees that the Area experienced cooler and wetter weather during some of the relevant time period, EPA disagrees with the Commenter that the improvement in air quality in the bi-state Charlotte Area was solely the result of “aberrant weather.” EPA has examined the weather data presented by the Commenter, and has determined, after conducting its own analysis of the meteorological conditions and the emission reductions occurring during the relevant time period, that the improvement in air quality in the Area was due to those emissions reductions in accordance with CAA section 107(d)(3)(E)(iii).

As noted above, Federal regulations require EPA to use a three-year average to determine attainment of the 2008 8-hour ozone NAAQS. The averaging of values over three years serves to account for some variation in meteorology from year to year. While EPA agrees that 2013 was cooler than the long-term average temperature and may have been less conducive to the formation of ozone, the Agency also notes that the weather conditions in the 2012 ozone season (a season included in the three-year average forming the basis for the attainment determination) were warmer than the long-term average and were more conducive to ozone formation. *See* Table 1, below.⁴ Furthermore, temperatures in the summer of 2014 are close to the long-term average temperatures. Given the higher than long-term average 2012 temperatures and the near normal⁵ temperatures in 2014, EPA does not agree with the Commenter’s conclusion that meteorological conditions during the relevant time period were so unusual or abnormal such that

³ <http://www.epa.gov/airtrends/weather.html>.

⁴ EPA’s use of the phrase “long-term average” refers to the 74-year averages identified in Table 1.

⁵ EPA’s analysis is based on weather data from the National Oceanic and Atmospheric Administration (see below). NOAA defines “normal” as the “long-term average value of a meteorological element for a certain area. For example, ‘temperatures are normal for this time of year[.]’ Usually averaged over 30 years.” *See* <http://www.erh.noaa.gov/er/box/glossary.htm>.

those conditions alone “provide sufficient justification for EPA to reject DAQ’s request for the redesignation of the Area from nonattainment to attainment.” To the contrary, the certified data show that the Area attained the 2008 8-hour ozone NAAQS from 2012 to 2014, a time period with varying meteorological conditions. Preliminary monitoring data from 2015 also indicates that the bi-state Charlotte Area continues to attain the 2008 8-hour ozone NAAQS.⁶

Table 1 provides temperature and precipitation data for the bi-state Charlotte Area for the ozone seasons (May 1 –September 30) from 2010-2014 obtained from the National Oceanic and Atmospheric Administration’s National Centers for Environmental Information (NOAA NCEI).⁷ Specifically, Table 1 provides overall average and average maximum ozone season temperatures and total ozone season precipitation; deviation from the 74-year average ozone season temperature and precipitation (termed the “anomaly”); and the rank of the given year on the 74-year (1940-2014) recorded history list. A rank of 74 is given to the hottest or wettest year.

Table 1. Charlotte, North Carolina Temperature and Precipitation Ozone Season (May-September) Data⁸

| Year | Average May-September Temperature [degrees F] (Anomaly from the Long-Term Average [74.7 degrees F]) | Rank [Since 1940, Scale of 1-74] | Average Maximum May-September Temperature [degrees F] (Anomaly from the Long-Term Average [84.9 degrees F]) | Rank [Since 1940, Scale of 1-74] | Precipitation [inches] (Anomaly from the Long-Term Average [18.17 inches]) | Rank [Since 1940, Scale of 1-74] |
|-------------|--|---|--|---|---|---|
| 2010 | 78.0 (+3.3) | 73 | 88.8 (+3.9) | 73 | 17.67 (-0.5) | 36 |

⁶ This preliminary data is available at EPA’s air data website: http://aqsd1.epa.gov/aqsweb/aqstmp/airdata/download_files.html#Daily. The list of monitors in the bi-state Charlotte Area is available under the Designated Area field in Table 5 of the Ozone detailed information file at <http://www.epa.gov/airtrends/values.html>.

⁷ Ozone is monitored from April 1 through October 31 in the bi-state Charlotte Area.

⁸ EPA obtained this weather data from the NOAA NCEI website at <http://www.ncdc.noaa.gov/cag/>.

| | | | | | | |
|-------------|-------------|----|-------------|----|---------------|----|
| 2011 | 76.2 (+1.5) | 64 | 87.3 (+2.4) | 67 | 22.1 (+3.93) | 58 |
| 2012 | 75.3 (+0.6) | 52 | 86.3 (+1.4) | 54 | 18.87 (+0.7) | 44 |
| 2013 | 73.9 (-0.8) | 21 | 83.3 (-1.6) | 12 | 22.63 (+4.46) | 61 |
| 2014 | 74.5 (-0.2) | 32 | 84.5 (-0.4) | 32 | 19.01 (+0.84) | 46 |

The data in Table 1 show that both average temperature and precipitation varied significantly from 2010-2014. The rank and anomaly data in Table 1 show that average ozone season temperatures and precipitation were slightly above normal for the year 2012, temperatures were below normal and precipitation was above normal in 2013, and temperatures were near normal and precipitation slightly above normal in 2014. The year 2012 was one of the hottest in the recent past across the Southeast. In fact, a record-setting heat wave occurred in late June through early July 2012, which resulted in high ozone levels measured across the Southeast. Based upon the meteorology analysis, 2012 was hotter, 2013 was cooler, and 2014 was near normal when compared to the long-term average. Therefore, the 2012-2014 period does not appear to be abnormally conducive to low ozone formation and does not undermine EPA's analysis that the attainment in the bi-state Charlotte Area was due to permanent and enforceable reductions.

EPA also evaluated preliminary ozone data and meteorology for May 2015, which is the beginning of the ozone season in the Area. The Commenter provided data to show that the average maximum temperature in May 2015 is higher than the average maximum May temperature over the previous ten years. EPA agrees that the average maximum temperature in May 2015 was above average; in fact, the average maximum temperature was 84 degrees Fahrenheit, which is 4.2 degrees above average and it ranks 67 out of 75 years of recorded data in the bi-state Charlotte Area. However, even with this abnormally warm month, the May 2015 preliminary ozone data indicates that no exceedances of the 75 ppb ozone standard occurred and that the highest 8-hour average was 72 ppb. This data also indicates that although

meteorological conditions were conducive to ozone formation, emissions in the Area were low enough not to support the formation of ozone above a level that would exceed the 2008 8-hour ozone NAAQS. Additionally, preliminary ozone season data available through June 28, 2015, indicate that the 4th Highest Maximum Daily 8-hour Average value for the bi-state Charlotte area monitors from March 1, 2015 through June 28, 2015 is 72 ppb.⁹

The Commenter's focus on meteorological conditions is inconsistent with EPA's analysis of the permanent and enforceable emission reductions that did occur in the area during the relevant time period. Consistent with EPA's longstanding practice and policy, a comparison of nonattainment period emissions with attainment period emissions is a relevant in demonstrating permanent and enforceable emissions reductions. EPA evaluated the ozone precursor emissions data in the Area and found that there were significant reductions in these emissions in multiple source categories from 2011 (a nonattainment year) to 2014 (an attainment year). The emissions data show that from 2011 to 2014, non-road NO_x and VOC emissions decreased, point source NO_x emissions decreased, and on-road mobile NO_x and VOC emissions have decreased substantially. During this time period, mobile source NO_x emissions decreased by approximately 54.5 tons per summer day (tpsd) (equating to 79 percent of the total NO_x emissions reductions) and mobile source VOC emissions decreased by approximately 26.5 tpsd (equating to 100 percent of the total VOC emissions reductions). It is not necessary for every change in emissions between the nonattainment year and the attainment year to be permanent and enforceable. Rather, the CAA requires that improvement in air quality necessary for the area

⁹ This preliminary data is available at EPA's air data website: http://aqsdrl.epa.gov/aqsweb/aqstmp/airdata/download_files.html#Daily. The list of monitors in the bi-state Charlotte Area is available under the Designated Area field in Table 5 of the Ozone detailed information file at <http://www.epa.gov/airtrends/values.html>.

to attain the relevant NAAQS must be reasonably attributable to permanent and enforceable emission reductions in emissions.

Table 2: NO_x Emissions for the Charlotte 2008 Ozone NAAQS Nonattainment Area (tons per summer day)

| Year | Point Source | Area Source | On-Road | Non-Road | Total |
|------|--------------|-------------|---------|----------|--------|
| 2011 | 47.17 | 6.68 | 112.13 | 28.75 | 194.73 |
| 2014 | 32.38 | 11.40 | 60.15 | 26.26 | 130.18 |

Table 3: VOC Emissions for the Charlotte 2008 Ozone NAAQS Nonattainment Area (tons per summer day)

| Year | Point Source | Area Source | On-Road | Non-Road | Total |
|------|--------------|-------------|---------|----------|--------|
| 2011 | 11.37 | 46.69 | 55.35 | 24.4 | 137.81 |
| 2014 | 12.03 | 47.88 | 34.32 | 18.89 | 113.12 |

The emissions reductions identified in Tables 2 and 3, above, are attributable to numerous measures implemented during this period, including the permanent and enforceable mobile source measures discussed in the NPR such as the Tier 2 vehicle and fuel standards, the large non-road diesel engines rule,¹⁰ heavy-duty gasoline and diesel highway vehicle standards,¹¹ medium and heavy duty vehicle fuel consumption and GHG standards,¹² non-road spark-ignitions and recreational standards,¹³ and the national program for GHG emissions and fuel economy standards. These mobile source measures have resulted in, and continue to result in, large reductions in NO_x emissions over time due to fleet turnover (i.e., the replacement of older

¹⁰ EPA estimated that compliance with this rule will cut NO_x emissions from non-road diesel engines by up to 90 percent nationwide.

¹¹ Implementation of this rule is expected to achieve a 95 percent reduction in NO_x emissions from diesel trucks and buses.

¹² When fully implemented in 2018, this rule is expected to reduce NO_x emissions from the covered vehicles by 20 percent.

¹³ When fully implemented, the standards will result in an 80 percent reduction in NO_x by 2020.

vehicles that predate the standards with newer vehicles that meet the standards). For example, implementation of the Tier 2 standards began in 2004, and as newer, cleaner cars enter the national fleet, these standards continue to significantly reduce NOx emissions. EPA expects that these standards will reduce NOx emissions from vehicles by approximately 74 percent by 2030, translating to nearly 3 million tons annually by 2030.¹⁴ Implementation of the heavy-duty gasoline and diesel highway vehicle standards rule also began in 2004. EPA projects a 2.6 million ton reduction in NOx emissions by 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.¹⁵

The State calculated the on-road and non-road mobile source emissions contained in Tables 2 and 3 using EPA-approved models and procedures that account for the Federal mobile source measures identified above, fleet turnover, and increased population.^{16, 17} Because the model does not include any additional mobile source measures, the large reductions in mobile source emissions quantified in the Area between 2011 and 2014 are the result of the permanent and enforceable mobile source measures listed above and discussed in the NPR.

Regarding the Commenter's discussion of capacity factors at the GG Allen and Marshall power plants and cooling degree days, the Commenter does not attempt to quantify how any decreases in these parameters translate to decreases in NOx emissions or ozone concentrations;

¹⁴ EPA, Regulatory Announcement, EPA420-F-99-051 (December 1999), available at: <http://www.epa.gov/tier2/documents/f99051.pdf>.

¹⁵ 66 FR 5002, 5012 (January 18, 2001).

¹⁶ North Carolina used EPA's MOVES2014 model to calculate on-road emissions factors and EPA's NONROAD 2008a model to quantify off-road emissions.

¹⁷ North Carolina used the interagency consultation process required by 40 CFR part 93 (known as the Transportation Conformity Rule) which requires EPA, the United States Department of Transportation, metropolitan planning organizations, state departments of transportation, and State and local air quality agencies to work together to develop applicable implementation plans. The on-road emissions were generated by an aggregate of the vehicle activity (generated from the travel demand model) on individual roadways multiplied by the appropriate emissions factor from MOVES2014. The assumptions which are included in the travel demand model, such as population, were reviewed through the interagency consultation process.

therefore, it is unclear how the changes in capacity factors and cooling degree days support the Commenter's position that EPA cannot redesignate the bi-state Charlotte Area. The data in Table 2, above, demonstrates that the decreases in mobile source NO_x emissions from 2011-2014 are much greater than the decreases in point-source NO_x emissions.

In addition, EPA does not believe that the cooling degree and capacity factor data supports the conclusions reached by the Commenter. The Commenter presents data showing cooling degree days for North Carolina for the past ten years and concludes that the cooler summers in 2013 and 2014 have resulted in a lower demand for air conditioning and thus a lower demand for electric power. EPA acknowledges that the number of cooling degree days in 2013 and 2014 and the total consumption of electricity in North Carolina were lower in 2013 and 2014 than during 2010, 2011, and 2012. However, the Commenter ignores the fact that the numbers of cooling degree days in 2010, 2011, and 2012 were significantly above average. In fact, the number of cooling degree days in 2010 ranks the highest in the 120 years of data available for North Carolina and 2011 ranks the third highest out of those 120 years. In contrast, the number of cooling degree days in 2013 and 2014 were close to the 120-year average – 2013 is slightly below the average, but the 2014 cooling degree days are actually above the long-term 120-year average. Also, even within the ten years of data presented by the Commenter, the number of cooling degree days in 2014 is on par with the number of cooling degree days in 2006, 2008, and 2009. EPA therefore does not agree with the Commenter that the number of cooling degree days in 2013 and 2014 undermines the Agency's conclusion about the causes of the attainment air quality in the Area.

EPA also disagrees with the Commenter's characterization of the capacity factor and electric power usage data presented in its comments. For example, the Commenter provides a

figure showing total consumption of electric power in North Carolina for each ozone season for only the last five years (2010 through 2014) and concludes that the electric power consumption in 2013 and 2014 was “unusually low” using this limited time period as its reference point.

However, as demonstrated by the meteorological analysis provided in Table 1 of this final action, 2010, 2011, and 2012 are warmer than long-term average years. Therefore, it is not appropriate to conclude that levels in 2013 and 2014 were “unusually low” without evaluating consumption data from a larger time period. EPA also notes that the Commenter’s conclusion that ozone season capacity factors in 2012-2014 at the GG Allen and Marshall power plants are “starkly lower than preceding years” that “can be attributed, in part to the aberrantly mild summer weather and the resulting decrease in energy demand” ignores the fact that 2012 had warmer than average summer temperatures and still had capacity factors at those same units that were lower than or comparable to 2014. The Commenter’s assertion is also based on the limited 2010-2014 time period that is not representative of long-term meteorological conditions. Therefore, the Commenter has not established a causal connection between differences in ozone season meteorological conditions and capacity factors for these EGUs.

For the reasons discussed above, EPA does not agree with the Commenter that the meteorological data from the relevant time period undermines its analysis and conclusion that the improvement in air quality in the bi-State Charlotte Area is reasonably attributable to the permanent and enforceable emission reductions identified by the State and EPA.

Comment 3: The Commenter states that “as EPA has acknowledged, global climate change likely will lead to significantly higher summer temperatures in the years to come and hotter summers, in turn, will lead to increased ozone formation.” The Commenter therefore believes

that it is “irrational” for EPA to approve the redesignation request based on data from “two outlying uncharacteristically cool summers” that “Charlotte may not experience again.”

Response 3: EPA agrees that climate change is a serious environmental issue; however, EPA does not agree that the redesignation and maintenance plan at issue are flawed because temperatures may increase in the future. Given the potential wide-ranging impacts of climate change on air quality planning, EPA is developing climate adaptation implementation plans to assess the key vulnerabilities to our programs (including how climate change might affect attainment of national ambient air quality standards) and to identify priority actions to minimize these vulnerabilities.

With respect to climate impacts on future ozone levels, EPA’s Office of Air and Radiation has identified as a priority action the need to adjust air quality modeling tools and guidance as necessary to account for climate-driven changes in meteorological conditions and meteorologically-dependent emissions. However, EPA has not yet made those changes. The broad range of potential future climate outcomes and variability of projected response to these outcomes limits EPA’s ability, at this time, to translate a general expectation that average ozone levels will increase with rising temperatures to specific “actionable” SIP policies at any specific location, including the bi-state Charlotte Area. Thus, EPA believes that it is appropriate to rely upon the existing air quality modeling tools and guidance and applicable CAA provisions to ensure that ozone maintenance areas do not violate the NAAQS (as a result of climate change or any other cause).

As noted above, EPA is currently unable to fully account for the potential impact of climate change on ozone concentrations in the Area. However, there is nothing in the record to

suggest that the large emissions reductions of NO_x and VOC projected for the Area over the next 10 years would be outpaced by the potential increase in ozone concentrations caused by climate change over the same time period.

Comment 4: The Commenter contends that EPA should not approve the State's maintenance plan because "DAQ selected 2014 as the base year for the purpose of its maintenance demonstration, which year is not representative of air quality conditions given aberrant weather, and, thus, inappropriately skewed the analysis of future air quality toward an underestimation of future emissions." According to the Commenter, EPA should "require DAQ to reevaluate the Area's ability to attain and maintain the ozone NAAQS using emissions data from a year (or years) in which summer weather conditions were more typical."

Response 4: As discussed in Response 2, EPA does not agree with the Commenter's assertion that the weather in summer 2014 was "unusually cool" when the conditions from that year are viewed in comparison to a larger data set, and therefore does not agree that NC DAQ selected an inappropriate base year for a maintenance demonstration. Furthermore, it is unclear how the Commenter concludes that EPA should disapprove the maintenance plan even if the Agency accepted the Commenter's assertion that the weather in 2014 was "aberrant." The maintenance demonstration compares base year emissions to future year emissions. If total future year emissions are above total base year emissions, maintenance is not demonstrated. For some source categories, future year emissions are projected using base year emissions; however, for other source categories, future year emissions projections are independent of base year emissions. Projected emissions for source categories that rely on base year emissions will be

proportional to base year emissions in the same degree regardless of the base year emissions used. It is therefore more likely that an area will fail to demonstrate maintenance using a comparison of total emissions if the baseline is artificially low. In addition, while emissions from some source categories may vary as a result of weather conditions, the overall NO_x and VOC emissions released from year to year across source categories is generally not weather-dependent; therefore, weather does not play a determinative role in the base year to future year emissions comparison.

Comment 5: The Commenter claims that EPA must disapprove the State's maintenance plan because "it fails to specify emissions reductions that are permanent and enforceable. The proposed plan identifies various state and Federal requirements that may apply to the major stationary sources of air pollution located in and in close proximity to the Charlotte Area, however, it fails to present any assurance that such requirements will result in any reduction in emissions." In support, the Commenter references three requirements - North Carolina's Clean Smokestacks Act and EPA's Clean Air Interstate Rule (CAIR) and Cross State Air Pollution Rule (CSAPR). As to these three measures, the Commenter states its belief that they are not permanent and enforceable because they are cap and trade programs that could allow for increased NO_x emissions at Duke Energy's GG Allen and Marshall power plants. The Commenter further states that "DAQ should impose enforceable limits on NO_x emissions from all EGUs [electricity generating units] that are based on available and demonstrated control technology."

Response 5: EPA disagrees with the Commenter. Consistent with EPA guidance, the State's maintenance plan identifies a number of permanent and enforceable requirements, including measures that regulate area, on-road, and off-road sources, and discusses the emissions reductions associated with each measure.¹⁸ See 80 FR 29250. In discussing the emissions reductions and status of these measures, the State has provided assurance that these requirements will result in emissions reductions.¹⁹

EPA also disagrees with the Commenter's belief that emission reductions associated with the CSA, CAIR, and CSAPR are not permanent and enforceable simply because the underlying program is an emissions trading program. Cap-and-trade programs provide economic incentives for early reductions in emissions and encourage sources to install controls earlier than required for compliance with future caps on emissions. The flexibility under a cap-and-trade system is not about whether to reduce emissions; rather, it is about how to reduce them at the lowest possible cost. Trading programs require total mass emission reductions by establishing mandatory caps on total emissions to permanently reduce the total mass emissions allowed by sources subject to the programs, validated through rigorous continuous emission monitoring and reporting regimens. The emission caps and associated controls are enforced through the associated SIP rules or federal implementation plans. Any purchase of allowances and increase in emissions by one source necessitates a corresponding sale of allowances and either reduction in emissions or use of banked allowances by another covered source.

Given the regional nature of ozone, the corresponding NO_x emission and/or allowance reduction in one affected area will have an air quality benefit that will compensate, at least in

¹⁸ See, e.g., Memorandum from John Calcagni, Director, Air Quality Management Division, to Regional Air Directors entitled "Procedures for Processing Requests to Redesignate Areas to Attainment" (September 4, 1992).

¹⁹ See Response 2, above, for further discussion of these permanent and enforceable emissions reductions.

part, for the impact of any emission increase in another affected area. EPA disagrees with any suggestion that only specific emission limits on units can be considered “reductions.” In fact, the information that EPA has evaluated in order to conclude that the bi-State Charlotte Area has met the criteria for redesignation shows that power plant emissions in both the Area and the surrounding region have substantially decreased as a result of cap-and-trade programs, including CAIR. The facts contradict the theoretical concerns raised by the Commenter and show that the emission trading programs, combined with other controls, have improved air quality in the Area.

Moreover, experience has demonstrated that cap and trade programs do successfully generate lasting emission reductions. For example, the NO_x SIP Call and CAIR have successfully reduced transported emissions contributing to ozone nonattainment in areas across the country. Data collected from long-term national air quality monitoring networks demonstrate that these regional cap-and-trade programs have resulted in substantial achievements in air quality caused by emission reductions from power sector sources.²⁰ In 2004, EPA designated 91 areas in the Eastern half of the United States as nonattainment for the 8-hour ozone standard adopted in 1997, using data from 2001–2003. Based on data gathered from 2009–2011, 90 of these original Eastern nonattainment areas show concentrations below the 1997 ozone standard.²¹

Many states have sought and continue to seek redesignation of their nonattainment areas relying in part on the reductions attributable to these cap-and-trade programs. *See, e.g.*, 76 FR 59600, 59607 (September 27, 2011) (proposing to redesignate a portion of the Chicago area for the 1997 8-hour ozone NAAQS), finalized at 76 FR 76302 (December 7, 2011); and 74 FR 63995 (December 7, 2009) (redesignation of Great Smoky Mountain National Park for the 1997

²⁰ *See, e.g.*, EPA, Progress Report 2011 - Clean Air Interstate Rule, Acid Rain Program, and Former NO_x Budget Trading Program – Environmental and Health Results Report (March 2013), available at: http://www.epa.gov/airmarkets/documents/progressreports/ARPCAIR11_environmental_health.pdf.

²¹ *Id.* at 12.

8-hour ozone NAAQS). The Commenter's contention that EPA and North Carolina may not rely on the substantial emission reductions that have already occurred from these rules is based on a faulty and rigid interpretation of the CAA would impose a major obstacle for nonattainment areas across the country that have achieved attainment air quality because of the reductions required by the rules. This would unnecessarily undermine a reasonable, proven, and cost-effective approach to combating regional pollution problems.

Of the Federally-enforceable rules relied upon by North Carolina in its redesignation request, the Commenter singles out cap-and-trade programs as insufficiently permanent and enforceable to meet the requirements for redesignation. However, as discussed above, a number of other permanent and enforceable measures have helped contribute to the Area's attainment of the 2008 8-hour ozone standard and ensure maintenance of that standard. There is inherent flexibility in nearly all of these measures, including Federal transportation control measures and SIP emission rate limits, also known as "command-and-control" regulations. For example, the rules do not and cannot account for when and where people drive their cars, nor do they dictate that consumers in a certain area invest in newer, lower-emitting cars. Similarly, emission rate limits limit the rate of emissions per unit of fuel consumed, or parts per million of emissions in the exhaust but do not regulate throughput or hours of operation of the regulated sources. It would be unworkable for EPA to disqualify a requirement as "permanent and enforceable" for the purposes of redesignation simply because the requirement did not require the exact same pollutant emission reduction every hour of every day of every year. North Carolina relied on a suite of requirements that, while inherently allowing for some flexibility, has collectively served to bring the Area into, and to maintain, attainment of the NAAQS.

EPA's position that cap-and-trade programs are permanent and enforceable measures under section 107(d)(3)(E)(iii) was recently upheld by two Federal appellate courts. In the most recent decision, the United States Court of Appeals for the Sixth Circuit rejected Sierra Club's argument that EPA improperly relied on emissions reductions from cap-and-trade programs such as the NOx SIP Call, CAIR, and CSAPR in redesignating the Cincinnati-Hamilton nonattainment area for the 1997 PM_{2.5} NAAQS. *Sierra Club v. EPA*, 781 F.3d 299 (6th Cir. 2015). This decision is consistent with the opinion of the United States Court of Appeals for the Seventh Circuit in *Sierra Club v. EPA*, 774 F.3d 383 (7th Cir. 2014) that EPA could rely on the NOx SIP Call cap-and-trade program as a permanent and enforceable measure in redesignating the Milwaukee-Racine, Greater Chicago, and St. Louis (Illinois portion) nonattainment areas to attainment for the 1997 8-hour ozone NAAQS.

EPA also notes that North Carolina's maintenance plan provides for verification of continued attainment by performing future reviews of triennial emissions inventories and also for contingency measures to ensure that the NAAQS is maintained into the future if monitored increases in ambient ozone concentrations occur. *See* 80 FR 29250. For this and the above reasons, EPA disagrees with the Commenter's position that the State failed to identify permanent and enforceable emissions reductions in its maintenance plan.

Regarding the need for additional controls at the GG Allen and Marshall power plants, EPA has concluded that the Area has attained, and will maintain, the 2008 8-hour ozone NAAQS with the permanent and enforceable measures identified in the State's submission and in EPA's NPR. EPA also notes that the Marshall Steam Plant is not located within the bi-state Charlotte Area nonattainment boundary, and is therefore not included in the emissions comparison portion of the maintenance demonstration. Furthermore, continued nonattainment status for this Area

would not require any further emissions controls for either power plant under their current configurations.

Comment 6: The Commenter believes that redesignating the bi-state Charlotte Area would “eliminate needed additional air quality planning requirements and jeopardize public health by delaying permanent attainment for the area.” According to the Commenter, the Area “consistently records higher asthma rates than the entire state. Moreover, the impacts of ozone pollution have significant environmental justice implications as African Americans carry a disproportionate asthma burden compared with whites in North Carolina.” The Commenter therefore concludes that EPA should not redesignate the Area and that “[b]efore making a final decision on whether or not to approve DAQ’s redesignation request, EPA must evaluate the environmental justice implications of such action and, if it still determines that redesignation is justified, must allow for additional public comment on any proposed action.”

Response 6: As noted in EPA’s May 21, 2015 NPR, Executive Order 12898 establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States. These final actions do not relax control measures on existing sources and therefore will not cause emissions increases from those sources. Thus, these actions will not have an adverse human health or environmental effect on any individuals, including minority or low-income populations. As discussed above and in

EPA's May 21, 2015 NPR, the Area has attained the 2008 8-hour NAAQS through permanent and enforceable measures, emissions in the Area are projected to decline following the redesignation, and the maintenance plan demonstrates that the Area will continue to meet the NAAQS for the next ten years and includes contingency measures to quickly address any NAAQS violations. While the Commenter has expressed a general concern that this action will "eliminate needed additional air quality planning requirements and jeopardize public health by delaying permanent attainment," the Commenter has not identified any specific requirements of concern or any specific information on the potential emissions impact that would arise if those requirements were not in place. Such future emission impacts are speculative, and to the extent that emissions in fact increase in the future to levels that would impact NAAQS maintenance – which EPA does not think will happen – the Agency could take future action to address actual emissions in the Area.

III. What are the Effects of These Actions?

Approval of North Carolina's redesignation request changes the legal designation of Mecklenburg County in its entirety and portions of Cabarrus, Gaston, Iredell, Lincoln, Rowan and Union Counties in the North Carolina portion of the bi-state Charlotte Area, found at 40 CFR 81.334, from nonattainment to attainment for the 2008 8-hour ozone NAAQS. Approval of North Carolina's associated SIP revision also incorporates a plan for maintaining the 2008 8-hour ozone NAAQS in the bi-state Charlotte Area through 2026. The maintenance plan establishes NO_x and VOC MVEBs for 2014 and 2026 for the North Carolina portion of the bi-state Charlotte Area and includes contingency measures to remedy any future violations of the 2008 8-hour ozone NAAQS and procedures for evaluation of potential violations. The sub-area

MVEBs for the North Carolina portion of the bi-state Charlotte Area along with the allocations from the safety margin are provided in the tables below.²²

Table 4. Cabarrus Rowan Metropolitan Planning Organization Sub-area MVEBs (kg/day)

| | 2014 | | 2026 | |
|--|--------|-------|-------|-------|
| | NOx | VOC | NOx | VOC |
| Base Emissions | 11,814 | 7,173 | 3,124 | 3,135 |
| Safety Margin Allocated to MVEB | - | - | 625 | 627 |
| Conformity MVEB | 11,814 | 7,173 | 3,749 | 3,762 |

Table 5. Gaston-Cleveland-Lincoln Metropolitan Planning Organization Sub-area MVEBs (kg/day)

| | 2014 | | 2026 | |
|--|--------|-------|-------|-------|
| | NOx | VOC | NOx | VOC |
| Base Emissions | 10,079 | 5,916 | 2,482 | 2,278 |
| Safety Margin Allocated to MVEB | - | - | 510 | 470 |
| Conformity MVEB | 10,079 | 5,916 | 2,992 | 2,748 |

Table 6. Charlotte Regional Transportation Planning Organization - Rocky River Rural Planning Organization Sub-area MVEBs (kg/day)

| | 2014 | | 2026 | |
|--|--------|--------|-------|-------|
| | NOx | VOC | NOx | VOC |
| Base Emissions | 32,679 | 18,038 | 8,426 | 8,189 |
| Safety Margin Allocated to MVEB | - | - | 1,515 | 1,472 |
| Conformity MVEB | 32,679 | 18,038 | 9,941 | 9,661 |

²² North Carolina has chosen to allocate a portion of the available safety margin to the NOx and VOC MVEBs for 2026. NC DAQ has allocated 2.93 tpd (2650 kg/day) to the 2026 NOx MVEB and 2.83 tpd (2,569 kg/day) to the 2026 VOC MVEB. After allocation of the available safety margin, the remaining safety margin was calculated as 59.72 tpd for NOx and 10.15 tpd for VOC.

IV. Final Actions

EPA is taking three separate final actions regarding the bi-state Charlotte Area's redesignation to attainment and maintenance of the 2008 8-hour ozone NAAQS. First, EPA is determining that the bi-state Charlotte Area is attaining the 2008 8-hour ozone NAAQS based on complete, quality-assured and certified monitoring data for the 2012-2014 monitoring period.

Second, EPA is approving and incorporating the maintenance plan for the bi-state Charlotte Area, including the sub-area NO_x and VOC MVEBs for 2014 and 2026, into the North Carolina SIP. The maintenance plan demonstrates that the Area will continue to maintain the 2008 8-hour ozone NAAQS, and the sub-area budgets meet all of the adequacy criteria contained in 40 CFR 93.118(e)(4) and (5).

Third, EPA is determining that North Carolina has met the criteria under CAA section 107(d)(3)(E) for the North Carolina portion of the bi-state Charlotte Area for redesignation from nonattainment to attainment for the 2008 8-hour ozone NAAQS. On this basis, EPA is approving North Carolina's redesignation request for the 2008 8-hour ozone NAAQS for the North Carolina portion of the bi-state Charlotte Area. As mentioned above, approval of the redesignation request changes the official designation of Mecklenburg County in its entirety and portions of Cabarrus, Gaston, Iredell, Lincoln, Rowan and Union Counties in the North Carolina portion of the bi-state Charlotte Area for the 2008 8-hour ozone NAAQS from nonattainment to attainment, as found at 40 CFR part 81.

EPA is also notifying the public that EPA finds the newly-established sub-area NO_x and VOC MVEBs for the bi-state Charlotte Area adequate for the purpose of transportation conformity. Within 24 months from this final rule, the transportation partners will need to

demonstrate conformity to the new sub-area NO_x and VOC MVEBs pursuant to 40 CFR 93.104(e).

V. Statutory and Executive Order Reviews

Under the CAA, redesignation of an area to attainment and the accompanying approval of the maintenance plan under CAA section 107(d)(3)(E) are actions that affect the status of geographical area and do not impose any additional regulatory requirements on sources beyond those required by state law. A redesignation to attainment does not in and of itself impose any new requirements, but rather results in the application of requirements contained in the CAA for areas that have been redesignated to attainment. Moreover, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. *See* 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, these actions merely approve state law as meeting Federal requirements and do not impose additional requirements beyond those imposed by state or Federal law. For these reasons, these actions:

- Are not a significant regulatory actions subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Do not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Are certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);

- Do not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Do not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Are not economically significant regulatory actions based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Are not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Are not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Will not have disproportionate human health or environmental effects under Executive Order 12898 (59 FR 7629, February 16, 1994).

The SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), nor will it impose substantial direct costs on tribal governments or preempt tribal law.

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA

will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[insert date 60 days after date of publication in the Federal Register]**. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. *See* section 307(b)(2).

List of Subjects

40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

40 CFR Part 81

Environmental protection, Air pollution control.

Dated: July 17, 2015.

Heather McTeer Toney,

Regional Administrator,

Region 4.

40 CFR parts 52 and 81 are amended as follows:

PART 52--APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart II – North Carolina

2. In §52.1770, the table in paragraph (e) is amended by adding a new entry “2008 8-hour ozone Maintenance Plan for the North Carolina portion of the bi-state Charlotte Area” at the end of the table to read as follows:

§52.1770 Identification of plan.

* * * * *

(e) * * *

EPA-Approved North Carolina Non-Regulatory Provisions

| Provision | State effective date | EPA approval date | Federal Register citation | Explanation |
|--|----------------------|--|------------------------------------|-------------|
| ** | ** | ** | * | |
| 2008 8-hour ozone Maintenance Plan for the North Carolina portion of the bi-state Charlotte Area | 4/16/2015 | [insert the date of publication in Federal Register] | [insert Federal Register citation] | |

PART 81--DESIGNATION OF AREAS FOR AIR QUALITY PLANNING PURPOSES

3. The authority citation for part 81 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

4. In §81.334, the table entitled “North Carolina--2008 8-Hour Ozone NAAQS (Primary and secondary)” is amended by revising the entries for “Charlotte-Rock Hill, NC-SC,” “Cabarrus County (part),” “Gaston County (part),” “Iredell County (part),” “Lincoln County (part),” “Mecklenburg County,” “Rowan County (part),” and “Union County (part)” to read as follows:

§81.334 North Carolina.

* * * * *

North Carolina--2008 8-Hour Ozone NAAQS (Primary and secondary)

| Designated area | Designation | | Classification | |
|---|--|------------|-------------------|------|
| | Date ¹ | Type | Date ¹ | Type |
| Charlotte- Rock Hill, NC-SC ² | This action is effective [insert the date of publication in the Federal Register] | Attainment | | |
| Cabarrus County (part) | | | | |
| Central Cabarrus Township, Concord Township, Georgeville Township, Harrisburg Township, Kannapolis Township, Midland Township, Mount Pleasant Township, New Gilead Township, Odell Township, Poplar Tent Township, Rimertown Township | | | | |
| Gaston County (part) | | | | |

| | | | | |
|--|----|---|---|---|
| Crowders Mountain Township, Dallas Township, Gastonia Township, Riverbend Township, South Point Township | | | | |
| Iredell County (part) | | | | |
| Davidson Township, Coddle Creek Township | | | | |
| Lincoln County (part) | | | | |
| Catawba Springs Township, Ironton Township, Lincolnton Township | | | | |
| Mecklenburg County | | | | |
| Rowan County (part) | | | | |
| Atwell Township, China Grove Township, Franklin Township, Gold Hill Township, Litaker Township, Locke Township, Providence Township, Salisbury Township, Steele Township, Unity Township | | | | |
| Union County (part) | | | | |
| Goose Creek Township, Marshville Township, Monroe Township, Sandy Ridge Township, Vance Township | | | | |
| ** | ** | * | * | * |

¹ This date is July 20, 2012, unless otherwise noted.

² Excludes Indian country located in each area, unless otherwise noted.

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[FR Doc. 2015-18345 Filed: 7/27/2015 08:45 am; Publication Date: 7/28/2015]