6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R04-OAR-2013-0562; FRL-9903-16-Region 4]

Approval and Promulgation of Implementation Plans; North Carolina: Non-interference Demonstration for Removal of Federal Low-Reid Vapor Pressure Requirement for the Greensboro/Winston-Salem/High Point Area

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing to approve the State of North Carolina's April 12, 2013, State Implementation Plan (SIP) revision associated with the currently approved maintenance plan addressing the 1997 8-hour national ambient air quality standards (NAAQS) for the Greensboro/Winston-Salem/High Point (Triad) Area. Specifically, North Carolina's revision, including updated modeling, shows that the Triad Area would continue to maintain the 1997 8-hour ozone standard if the currently applicable Federal Reid Vapor Pressure (RVP) standard for gasoline of 7.8 pounds per square inch (psi) were modified to 9.0 psi for four portions (Davidson, Forsyth, Guilford and Davie Counties) of the "Triad Area" during the high-ozone season. The State has included a technical demonstration with the revision to demonstrate that a less-stringent RVP standard of 9.0 psi in these portions of this area would not interfere with continued maintenance of the 1997 8-hour Ozone NAAQS or any other applicable standard. Approval of this SIP revision is a prerequisite for EPA's consideration of an amendment to the regulations to remove the aforementioned portions of the Triad Area from the list of areas that

are currently subject to the Federal 7.8 psi RVP requirements. In addition, the revised on-road mobile and non-road mobile source emissions modeling associated with the requested modification to the RVP standard results in the use of the updated Motor Vehicle Emissions Simulator (MOVES) and NONROAD2008 models which are the most current versions of modeling systems available for these sources. EPA has preliminarily determined that North Carolina's April 12, 2013, SIP revision with respect to the revisions to the modeling and associated technical demonstration associated with the State's request for the removal of the Federal RVP requirements, and with respect to the updated on-road mobile, non-road mobile and area source emissions, is consistent with the applicable provisions of the Clean Air Act (CAA or Act). Should EPA decide to remove the subject portions of the Triad Area from those areas subject to the 7.8 psi Federal RVP requirements, such action will occur in a subsequent rulemaking.

DATES: Written comments must be received on or before [insert date 30 days after date of publication in the Federal Register].

ADDRESSES: Submit your comments, identified by Docket ID Number EPA-R04-OAR-2013-0562 by one of the following methods:

1. www.regulations.gov: Follow the on-line instructions for submitting comments.
2. E-mail: R4-RDS@epa.gov.
3. Fax: (404) 562-9019.

4. Mail: EPA-R04-OAR-2013-0562, Regulatory Development Section, Air Planning Branch, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960.
5. Hand Delivery or Courier: Ms. Lynorae Benjamin, Chief, Regulatory Development Section, Air Planning Branch, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. Such deliveries are only accepted during the Regional Office's normal hours of operation. The Regional Office's official hours of business are Monday through Friday, 8:30 am to 4:30 pm, excluding Federal holidays.

Instructions: Direct your comments to Docket ID No. EPA-R04-OAR-2013-0562. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit through www.regulations.gov or e-mail, information that you consider to be CBI or otherwise protected. The www.regulations.gov website is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through www.regulations.gov, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA

cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket visit the EPA Docket Center homepage at http://www.epa.gov/epahome/dockets.htm.

Docket: All documents in the electronic docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, i.e., CBI 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 in www.regulations.gov or in hard copy at the Regulatory Development Section, 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 am to 4:30 pm, excluding federal holidays.

FOR FURTHER INFORMATION CONTACT: Sean Lakeman of the Regulatory Development Section, in 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. Mr. Lakeman may be reached by phone at (404) 562-9043, or via electronic mail at lakeman.sean@epa.gov.

SUPPLEMENTARY INFORMATION:

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I. What is Being Proposed?

The Triad Area in North Carolina is currently designated attainment for the 1997 8-hour ozone NAAQS. The Area was redesignated from nonattainment of the 1997 8-hour ozone NAAQS on April 2, 2008. *See* 73 FR 17897. This rulemaking proposes to approve a revision to the Section 110(a)(1) Maintenance Plan for 1997 8-hour ozone standard for the Triad Area submitted by the North Carolina Department of Environment and Natural Resources (NC DENR). Specifically, EPA is proposing to approve revisions to the maintenance plan, including updated modeling, that show the Triad Area can continue to maintain the 1997 ozone standard without reliance on emissions reductions based upon the use of gasoline with an RVP of 7.8 psi in any of the Triad Area counties during the high ozone season – June 1 through September 15.[1]

[1] As discussed further below, a separate rulemaking is required for relaxation of the current requirement to use gasoline with an RVP of 7.8 psi in the Area. This action proposes EPA's evaluation of the approvability of Florida's revision to the maintenance plan pursuant to section 110(l). The decision regarding removal of Federal RVP requirements pursuant to section 211(h) in the Area includes other considerations evaluated at the discretion of the

EPA is also proposing to conclude that the new modeling demonstrates that the area would continue to attain the 1997 8-hour ozone standard with the use of gasoline with an RVP of 9.0 psi throughout the Triad Area during the high ozone season. Consistent with section 110(l) of the Act, EPA also proposes to conclude that the use of gasoline with an RVP of 9.0 psi throughout the Triad Area during the high ozone season would not interfere with other applicable requirements.

The new modeling conducted by North Carolina to account for the proposed relaxation of the applicable RVP standard in portions of the Triad Area also results in changes to the on-road mobile, non-road mobile and area source emissions associated with the maintenance plan.[2] As such, the North Carolina revision updates the on-road mobile, non-road mobile and area source emissions for the Triad Area. EPA is also proposing approval of this revision.

This preamble is hereafter organized into five parts. Section II provides the background of the Triad Area designation status with respect to the various Ozone NAAQS. Section III describes the applicable history of federal gasoline regulation. Section IV provides the Agency's policy regarding relaxation of the volatility standards. Section V provides EPA's analysis of the information submitted by North Carolina to support a relaxation of the more stringent volatility standard in the Triad Area and revisions to the on-road mobile, nonroad mobile and area source emissions associated with Maintenance Plan for the Triad Area and provides EPA's analysis regarding the proposed revision.

Administrator. As such, the determination regarding whether to remove the Area from those areas subject to the section 211(h) requirements is made through a separate rule making action.

[2] In addition to a less stringent RVP standard, the new modeling also utilizes updated models for on-road and off-road mobile emission sources.

II. What is the Background of the Triad Area?

On November 6, 1991 (56 FR 56694), EPA designated the Counties of Davidson, Forsyth and Guilford in their entirety and the portion of Davie County bounded by the Yadkin River, Dutchmans Creek, North Carolina Highway 801, Fulton Creek and back to Yadkin River in the Triad Area as Moderate nonattainment for the 1-hour ozone NAAQS. Among the requirements applicable to nonattainment areas for the 1-hour ozone NAAQS was the requirement to meet certain volatility standards (known as Reid Vapor Pressure or RVP) for gasoline sold commercially. *See* 55 FR 23658 (June 11, 1990). As discussed in greater detail below, as part of the RVP requirements associated with the nonattainment designation, gasoline sold in the Triad 1-hour nonattainment area could not exceed 7.8 psi RVP during the high-ozone season months.

Following implementation of the 7.8 psi RVP requirement in the Triad Area, on September 9, 1993, the Triad Area was redesignated to attainment for the 1-hour ozone NAAQS, based on 1989-1992 ambient air quality monitoring data. *See* 58 FR 47391. North Carolina's November 13, 1992, 1-hour ozone redesignation request did not include a request for the removal of the 7.8 psi RVP standard. The requirements remained in place for the Area when it was designated nonattainment for the 1997 8-hour ozone NAAQS that was promulgated on July 18, 1997, and later designated attainment for the 2008 8-hour ozone NAAQS that was promulgated March 12, 2008. *See* 77 FR 30088, May 21, 2012.

On April 30, 2004, EPA designated and classified areas for the 1997 8-hour ozone NAAQS (69 FR 23857) unclassifiable/attainment or nonattainment for the new 8-hour ozone NAAQS. The Triad Area was designated as nonattainment with a deferred effective date as part

of the Early Action Compact (EAC)[3] program. (For more information on the EAC program, see, http://www.epa.gov/airquality/eac/fs20080331_eac.html.) The Greensboro-Winston Salem-High Point nonattainment-deferred EAC Area for the 1997 8-hour ozone NAAQS expanded the Triad Area to include the entire county of Davie, and Alamance, Caswell, Randolph, and Rockingham Counties in their entirety. The Greensboro-Winston Salem-High Point EAC Area attained the 1997 8-hour ozone NAAQS with a design value of 0.083 parts per million (ppm) using three years of quality assured data for the years of 2005-2007. On February 6, 2008, EPA proposed that 13 nonattainment areas with deferred effective dates, including the Greensboro-Winston Salem-High Point Area, be designated attainment for the 1997 8-hour ozone NAAQS. *See* 73 FR 6863. These areas met all of the milestones of the EAC program and demonstrated that they were in attainment of the 1997 8-hour ozone NAAQS as of December 31, 2007. This rulemaking was finalized on April 2, 2008. *See* 73 FR 17897. Effective April 15, 2008, the Greensboro-Winston Salem-High Point EAC Area was designated as attainment for the 1997 8-hour ozone NAAQS. However, these attainment areas consequently were required to submit a 10-year maintenance plan under section 110(a)(1) of the CAA. As required, these plans provide for continued attainment and maintenance of the 1997 8-hour ozone NAAQS for at least 10 years from the effective date of these areas' designation as attainment for the 1997 8-hour ozone NAAQS. These plans also include components illustrating how each area will continue to attain the 1997 8-hour ozone NAAQS and provided contingency measures.

[3] An EAC is an agreement between a State, local governments and EPA to implement measures not necessarily required by the Act in order to achieve cleaner air as soon as possible. The program was designed for areas that approach or monitor exceedances of the 8-hour ozone standard, but are in attainment for the 1-hour ozone NAAQS.

III. What is the History of the Gasoline Volatility Requirement?

On August 19, 1987 (52 FR 31274), EPA determined that gasoline nationwide had become increasingly volatile, causing an increase in evaporative emissions from gasoline-powered vehicles and equipment. Evaporative emissions from gasoline, referred to as volatile organic compounds (VOC), are precursors to the formation of tropospheric ozone and contribute to the nation's ground-level ozone problem. Exposure to ground-level ozone can reduce lung function (thereby aggravating asthma or other respiratory conditions), increase susceptibility to respiratory infection, and may contribute to premature death in people with heart and lung disease.

The most common measure of fuel volatility that is useful in evaluating gasoline evaporative emissions is RVP. Under section 211(c) of CAA, EPA promulgated regulations on March 22, 1989 (54 FR 11868), that set maximum limits for the RVP of gasoline sold during the high ozone season. These regulations constituted Phase I of a two-phase nationwide program, which was designed to reduce the volatility of commercial gasoline during the summer ozone control season. On June 11, 1990 (55 FR 23658), EPA promulgated more stringent volatility controls as Phase II of the volatility control program. These requirements established maximum RVP standards of 9.0 psi or 7.8 psi (depending on the State, the month, and the area's initial ozone attainment designation with respect to the 1-hour ozone NAAQS during the high ozone season).

The 1990 CAA Amendments established a new section, 211(h), to address fuel volatility. Section 211(h) requires EPA to promulgate regulations making it unlawful to sell, offer for sale, dispense, supply, offer for supply, transport, or introduce into commerce gasoline with an RVP level in excess of 9.0 psi during the high ozone season. Section 211(h) prohibits EPA from

establishing a volatility standard more stringent than 9.0 psi in an attainment area, except that EPA may impose a lower (more stringent) standard in any former ozone nonattainment area redesignated to attainment.

On December 12, 1991 (56 FR 64704), EPA modified the Phase II volatility regulations to be consistent with section 211(h) of the CAA. The modified regulations prohibited the sale of gasoline with an RVP above 9.0 psi in all areas designated attainment for ozone, beginning in 1992. For areas designated as nonattainment, the regulations retained the original Phase II standards published on June 11, 1990 (55 FR 23658).

As stated in the preamble to the Phase II volatility controls and reiterated in the proposed change to the volatility standards published in 1991, EPA will rely on states to initiate changes to EPA's volatility program that they believe will enhance local air quality and/or increase the economic efficiency of the program within the statutory limits.[4] In those rulemakings, EPA explained that the governor of a state may petition EPA to set a volatility standard less stringent than 7.8 psi for some month or months in a nonattainment area. The petition must demonstrate such a change is appropriate because of a particular local economic impact and that sufficient alternative programs are available to achieve attainment and maintenance of the 1-hour ozone NAAQS. A current listing of the RVP requirements for states can be found on EPA's website at: http://www.epa.gov/otaq/fuels/gasolinefuels/volatility/standards.htm.

As explained in the December 12, 1991 (56 FR 64704), Phase II rulemaking, EPA believes that relaxation of an applicable RVP standard is best accomplished in conjunction with the redesignation process. In order for an ozone nonattainment area to be redesignated as an attainment area, section 107(d)(3) of the Act requires the state to make a showing, pursuant to

[4] See 55 FR 23658 (June 11, 1990), 56 FR 24242 (May 29, 1991) and 56 FR 64704 (Dec. 12, 1991).

section 175A of the Act, that the area is capable of maintaining attainment for the ozone NAAQS for ten years after redesignation. Depending on the area's circumstances, this maintenance plan will either demonstrate that the area is capable of maintaining attainment for ten years without the more stringent volatility standard or that the more stringent volatility standard may be necessary for the area to maintain its attainment with the ozone NAAQS. Therefore, in the context of a request for redesignation, EPA will not relax the volatility standard unless the state requests a relaxation and the maintenance plan demonstrates, to the satisfaction of EPA, that the area will maintain attainment for ten years without the need for the more stringent volatility standard. As noted above, however, North Carolina did not request relaxation of the applicable 7.8 psi RVP standard when the Triad Area was redesignated to attainment for the either the 1-hour or the 1997 8-hour ozone NAAQS. Rather, North Carolina is now seeking to relax the 7.8 psi RVP standard after the Triad Area has been redesignated to attainment for the 1997 8-hour ozone NAAQS. Accordingly, the original modeling and maintenance demonstration supporting the 1997 8-hour ozone maintenance plan must be revised to reflect continued attainment under the relaxed 9.0 psi RVP standard that the State has requested.

IV. What are the Section 110(l) Requirements?

Section 110(l) requires that a revision to the SIP not interfere with any applicable requirement concerning attainment and reasonable further progress (RFP) (as defined in section 171), or any other applicable requirement of the Act. EPA's criterion for determining the approvability of North Carolina's April 12, 2013, SIP revision is whether this requested action complies with section 110(l) of the CAA. Because the modeling associated with the current maintenance plan for North Carolina is premised in part upon the 7.8 psi RVP requirements, a

request to revise the maintenance plan modeling to no longer rely on the 7.8 psi RVP requirement is subject to the requirements of CAA section 110(l). Therefore, the State must demonstrate that this revision will not interfere with the attainment or maintenance of any of the NAAQS or any other applicable requirement of the CAA.

This section 110(l) non-interference demonstration is a case-by-case determination based upon the circumstances of each SIP revision. EPA interprets 110(l) as applying to all NAAQS that are in effect, including those that have been promulgated but for which the EPA has not yet made designations. The specific elements of the 110(l) analysis contained in the SIP revision depend on the circumstances and emissions analyses associated with that revision. EPA's analysis of North Carolina's April 12, 2013, SIP revision, including review of section 110(l) requirements is provided below.

Finally, EPA notes that this rulemaking is only proposing to approve the State's revision to its existing maintenance plan for the Triad Area showing that the area can continue to maintain the standard without relying upon gasoline with an RVP of 7.8 psi being sold in the Triad Area during the high ozone season. Consistent with CAA section 211(h) and the Phase II volatility regulations a separate rulemaking is required for relaxation of the current requirement to use gasoline with an RVP of 7.8 psi in the Triad Area.

V. What is EPA's Analysis of North Carolina's Submittal?

a. Overall Preliminary Conclusions for Non-interference Analyses for North Carolina's Request for Removal of the Federal RVP Requirement.

On April 12, 2013, NC DENR submitted a revision to the maintenance plan for the Triad 1-hour ozone maintenance area. The revision updates the on-road mobile, non-road mobile, and

area source emissions that would result from modifying the RVP summertime gasoline requirement from 7.8 psi to 9.0 psi for the Triad Area. North Carolina's April 12, 2013, SIP revision also includes an evaluation of the impact that the removal of the 7.8 psi RVP requirement would have on maintenance of the 1997 and 2008 ozone standards and on other applicable NAAQS. For the purposes of this change, EPA is making the preliminary determination that the applicable NAAQS[5] of interest for the non-interference demonstration required by section 110(l) of the CAA are the carbon monoxide (CO), ozone, particulate matter (PM) and nitrogen dioxide (NO_2) standards.

VOC and NOx emissions are precursors for ozone and PM, and NO_2 is a component of NOx. In addition, EPA also believes that, in this instance, it is appropriate to also evaluate non-interference with respect to the CO NAAQS. Typically, EPA would not expect the CO NAAQS to be affected by a revision to RVP requirements because VOC and NOx are not precursors to CO. The revised modeling submitted by North Carolina, however, demonstrates a slight increase in CO emissions, and as such, EPA believes a non-interference review for CO is also appropriate in this case.

There are no emissions reductions attributable to the emissions of lead and sulfur dioxide (SO_2) from RVP requirements. As a result, there is no information indicating the proposed revision would have any impact on those NAAQS. Additionally, the Triad Area is currently designated attainment for the lead NAAQS, and is continuing to attain the standard. As for the SO_2 NAAQS, the Triad Area is not designated nonattainment and there is no available monitoring data indicating an exceedance of the NAAQS. Therefore, the analysis below focuses

[5] The six NAAQS for which EPA establishes health and welfare based standards are carbon monoxide, lead, NO_2, ozone, PM, and SO_2.

on the impact of North Carolina's requested RVP change to the ozone, particulate matter, NO_2 and CO NAAQS.

In North Carolina's April 12, 2013, SIP revision, the State provided a technical demonstration to support the request to modify the RVP summertime gasoline requirement from 7.8 psi to 9.0 psi for the Triad Area. NC DENR provided information regarding the emissions trends from the maintenance plans for the ozone NAAQS and conducted a photochemical modeling exercise to show that modifying the RVP summertime gasoline requirement from 7.8 psi to 9.0 psi would have no impact on the ozone and $PM_{2.5}$ NAAQS[6].

In the April 12, 2013, SIP revision, NC DENR provided an updated analysis utilizing EPA's MOVES emission modeling system to estimate emissions for mobile sources. These mobile source emissions are used as part of the evaluation of the potential impacts to the ozone NAAQS that might result exclusively from changing the high ozone season RVP requirements from 7.8 psi to 9.0 psi. The MOVES data resulted in minor increases to the on-road mobile and area source emissions. The State then used the MOVES-generated revised mobile source emissions in the Triad Area that resulted from the RVP program change in photochemical grid modeling to simulate the impact on ozone formation. In addition to modeling the small RVP changes over the Triad Area, NC DENR also modeled the shutdown of three coal-fired electric generating units (EGUs) (Buck, Dan River, and Riverbend), that were located in counties adjacent to the Triad Area. Combined-cycle natural gas units have been built at two of these facilities (Buck and Dan River) replacing the now decommissioned coal-fired units. The federally-enforceable emission limits associated with these new combined-cycle units were

[6] In addition there was not a significant increase in CO and NO_2 emissions. See the non-interference discussions below for more details.

included with the modeling conducted by NC DENR. The modeling shows that relaxation of the RVP standard to 9.0 psi would not interfere with continued maintenance of the ozone NAAQS in the Triad Area.

b. Non-interference Analysis for the Ozone NAAQS

As previously discussed, effective November 6, 1991, the Triad Area (which consisted of Davidson, Forsyth and Guilford Counties in their entirety and a portion of Davie County) was designated as nonattainment for the 1-hour ozone NAAQS. As a 1-hour ozone nonattainment area, Davidson, Davie, Forsyth and Guilford Counties were subject to the federal RVP requirements for high ozone season gasoline to aid the Area with compliance with the ozone NAAQS. On November 13, 1992, NC DENR submitted a redesignation request and maintenance plan for the 1-hour ozone NAAQS.

On February 6, 2008, EPA proposed that 13 nonattainment areas with deferred effective dates, including the Greensboro-Winston Salem-High Point Area, be designated attainment for the 1997 8-hour ozone NAAQS. *See* 73 FR 6863. These areas met all of the milestones of the EAC program and demonstrated that they were in attainment of the 1997 8-hour ozone NAAQS as of December 31, 2007. Effective April 15, 2008, the Greensboro-Winston Salem-High Point EAC Area was designated as attainment for the 1997 8-hour ozone NAAQS with a design value of 0.083 ppm using three years of quality assured data for the years of 2005-2007.

Throughout this history, there is an overall downward trend in ozone concentration in the Triad Area that can be attributed to Federal and State programs that have led to significant emissions reductions. The Triad Area is continuing to meet the 1-hour and 1997 8-hour ozone

NAAQS.[7] With respect to the 2008 ozone NAAQS, based on the 2010-2012 design values of 0.078 ppm and 0.076 ppm, Triad Area monitors in Forsyth and Guilford Counties, respectively, are violating the 2008 ozone NAAQS. However, the preliminary 2011-2013 design values for Forsyth and Guilford Counties are 0.073 ppm and 0.072 ppm, respectively.

The 2008 ozone NAAQS is met when the annual fourth-highest daily maximum 8-hour average concentration, averaged over 3 years is 0.075 ppm or less. Currently (as shown in Table 1), all ozone monitors in the Triad Area are attaining the 1997 8-hour ozone NAAQS, and all but three ozone monitors (two located in Forsyth County and one located in Guilford County) are attaining the 2008 8-hour ozone NAAQS.

Table 1 - Triad Area Design Value

County	2005-2007 DV (ppm)	2006-2008 DV (ppm)	2007-2009 DV (ppm)	2008-2010 DV (ppm)	2009-2011 DV (ppm)	2010-2012 DV (ppm)
Caswell	0.077	0.079	0.076	0.073	0.070	0.073
Davie	0.083	0.082	0.078	-------[8]	-------	0.073
Forsyth	0.081	0.081	0.077	0.076	0.075	0.078
Guilford	0.082	0.082	0.079	0.076	0.074	0.076
Rockingham	0.078	0.080	0.078	0.075	0.071	0.073

------- indicates no data available

On October 22, 2013, NC DENR submitted a letter to EPA describing its intention to early certify ozone monitoring data for the Triad Area based on 2011-2013 data. Once certified, this data is expected to demonstrate that all monitors in the Triad Area are attaining the 2008 8-hour ozone NAAQS based on 2011-2013 data. EPA is proposing this action contingent on the

[7] The air quality design value for the 8-hour ozone NAAQS is the 3-year average of the annual 4th highest daily maximum 8-hour ozone concentration. The level of the 2008 8-hour ozone NAAQS is 0.075 ppm. The 2008 8-hour ozone NAAQS is not met when the design value is greater than 0.075 ppm.

[8] The Davie County monitor was moved to a new location and began monitoring at the new location in 2008. There was not enough data at this location to calculate a 3 year averaged design value until 2012.

2011-2013 monitoring data, showing continued attainment of the 2008 ozone NAAQS, being quality assured and certified prior to the Agency taking final action on this proposed rule.

The primary precursors for ozone are VOC and NOx emissions. Relaxation of the RVP standard from 7.8 to 9.0 psi results in a slight increase in emissions of 0.16 tons per day (tpd) (a 0.28 percent increase) in NOx, and 1.43 tpd (a 1.34 percent increase) in VOC for Davidson, Forsyth, Guilford and Davie Counties. While modeling showed a slight increase in NOx and VOC emissions resulting from the use of 9.0 psi RVP gasoline as opposed to 7.8 psi RVP gasoline, the most appropriate analysis for purposes of evaluating non-interference is whether the increase in emissions would interfere with air quality for the Triad Area. For this demonstration, NC DENR chose to use photochemical modeling which is described below.

In addition to analyzing the photochemical modeling provided by North Carolina, EPA also notes that the Triad Area is located within a NOx-limited region.[9] A NOx-limited region is one in which the concentration of ozone is limited by the amount of NOx emissions. As discussed above, NOx and VOC are precursors to the formation of ozone in the atmosphere. In a NOx-limited area, high prevailing concentrations of VOC from naturally-occurring sources are present in the atmosphere to contribute to ozone formation. Consequently, reduction of manmade, or anthropogenic, sources of VOC emissions generally do not result in reduced ozone formation. Instead, reductions of NOx emissions provide a more effective ozone reduction strategy because reduced emissions of manmade NOx emissions limit the amount of NOx available in the atmosphere for ozone formation. These circumstances help support the reasonableness of the modeling showing that the small increase in VOC and even smaller

[9] *See*, *e.g.*, The State of the Southern Oxidants Study (SOS) Policy Relevant Findings in Ozone and PM2.5 Pollution Research 1995-2003 (June 30, 2004), http://www.ncsu.edu/sos/pubs/sos3/State_of_SOS_3.pdf.

increase in NOx from the relaxation of the RVP standard would not interfere with continued maintenance of the ozone NAAQS in the Triad Area.

NC DENR utilized EPA's Mercury and Air Toxics (MATS) modeling platform to model changes in ozone and particle matter pollution. The modeling years used in the modeling included the 2005 base year and the 2016 future year. The future year 2016 was chosen because it is the latest MATS model data available. The USEPA MATS modeling platform was chosen because it is fairly recent, has undergone full model performance, and uses the MOVES mobile model to generate on-road mobile emissions. The USEPA MATS modeling used a national 36 kilometer (km) domain and an eastern US 12km domain. The NC DENR modeling was performed using the 12km modeling domain. The EPA is currently using 12km modeling to address the impacts of the proposed Tier 3 Motor Vehicle and Emissions Standards. Given that the EPA is using the 12km modeling for Tier 3, NC DENR used the 12km modeling to estimate the impacts of the change in summertime RVP to 9.0 psi.

The USEPA MATS modeling conducted by NC DENR demonstrates that the relaxation of the RVP 7.8 standard to 9.0 psi in the Triad 1-hour ozone maintenance area is not necessary to maintain the either the 1997 or 2008 ozone NAAQS. Both the 2005 base year and the 2016 future year were used in the modeling. In the modeling NC DENR applied several conservative estimates to determine the maximum impact of RVP relaxation. These included:

(1) Selecting the most populous county to represent on-road mobile emissions for the other counties. Guilford County was selected to represent the "highest" level of emissions increase expected because it has the greatest population of vehicles and vehicle miles traveled (VMT) within the Triad maintenance area.

(2) Applying the maximum emissions increase for a given hour to the entire summertime period. Typically, the next step is to run SMOKE[10] to temporally and spatially allocate the MOVES output. However, NC DENR was unable to run the version of SMOKE used in the MATS modeling. As an alternative, for each pollutant, the average and maximum increase at any hour was calculated (see Table 2.3-8 of the NC submittal). In order to generate very conservative estimates of the impacts of the RVP relaxation, the maximum percent increase was applied to the mobile emissions for all hours of the June 1 to September 15 high-ozone season RVP period for both the 2005 and 2016 emissions in Guilford, Forsyth, Davie, and Davidson Counties where the RVP relaxation is proposed.

(3) Using the highest emissions increase for a given pollutant to represent VOC emissions.

(4) The liberal application of grid masking (i.e., the array of grid cells where the RVP emissions changes were applied). A grid cell was included in the grid cell mask if as little as 20 percent of the cell area includes one or more of the counties where the RVP relaxation is proposed. The grid cell mask includes 42 grid cells with an area of 6,048 km^2. A typical application of the mask would include 32 grid cells with an area of 4,608 km^2. By comparison, the total area of the four counties is 4,935 km^2. The 20 percent threshold grid cell mask used in the modeling will adjust the mobile

[10] SMOKE, or "Sparse Matrix Operator Kernel Emissions" is an emissions processing system designed to create gridded, speciated, hourly emissions for input into a variety of air quality models. SMOKE supports area, biogenic, mobile (both onroad and nonroad), and point source emissions processing for criteria, particulate, and toxic pollutants and is integrated with the on-road emissions model MOBILE6 and MOVES.

emissions in a larger area than the actual area of the four counties and will lead to conservative modeling results.

NC DENR used the Community Multiscale Air Quality Modeling System (CMAQ, v.4.71) to perform the air quality runs. A total of six runs were made from March 20, 2005 to September 30, 2005. A total of three runs were made using the 2005 emissions. The first run used the default 2005 MATS emissions (BASE05). The second run adjusted the mobile emissions due to the change in RVP from 7.8 psi to 9.0 psi during the June 1 to September 15 RVP period (RVP05). The third run for 2005 included the RVP adjustments and added expected NOx changes at the Buck, Dan River, Riverbend power plants. The 2016 model runs were run in a similar fashion as the 2005 runs. The first run used the default 2016 MATS emissions (BASE16). The second run adjusted the mobile emissions due to the change in RVP from 7.8 to 9.0 psi during the June 1 to September 15 RVP period (RVP16) and the third included the RVP adjustments and added expected NOx changes at the Buck, Dan River, Riverbend power plants.

In this application, The Model Attainment Test Software was used to compute relative reduction factors (RRFs) for each of the sensitivity runs at the area monitors. The 2005 sensitivity runs were compared to the Base05 run, and the 2016 sensitivity runs were compared to the Base16 run. RRF values of 1.0005 or less would indicate less than a 0.05 ppb rise within the base year or future year modeling. The change in ozone for monitors in and near the Triad Area generated by the change in RVP in the 2005 base year is shown in Table 2. The other runs had similar results. There is no appreciable change in ozone concentrations due to the increase in gasoline RVP.

See North Carolina's April 12, 2013, submittal for more information on the modeling demonstration.

Table 2 - Change in Ozone Concentrations and RRFs in the 2005 Base Year Modeling with Summertime RVP change to 9.0 psi

County	County Base05 Ozone Design Value[1] (ppb)	RVP05 Ozone Design Value[2] (ppb)	RRF	Change from Base05 to RVP05 (ppb)
Caswell	76.3	76.3	1.0002	0.0
Davie	81.3	81.3	1.0002	0.0
Forsyth	78.0	78.0	1.0004	0.0
Forsyth	73.0	73.0	1.0003	0.0
Forsyth	76.0	76.0	1.0004	0.0
Forsyth	80.0	80.0	1.0004	0.0
Guilford	77.0	77.0	1.0005	0.0
Guilford	82.0	82.0	1.0005	0.0
Rockingham	77.0	77.0	1.0003	0.0

[1] Default 2005 MATS concentrations
[2] 2005 concentrations with summertime RVP changed to 9.0 psi

It should also be noted that in its submission, North Carolina provided a demonstration that there is no appreciable change in future ozone design value concentrations at any of the area monitors when comparing changes in ozone concentration and RRFs in a future year scenario for 2016 that modeled summertime RVP at 9.0 psi. North Carolina's model runs were done solely for the purpose of determining potential and relative impact for changes in ozone concentration due to a change of RVP to 9.0 psi. More information on the MATS modeling can be found at http://www.epa.gov/mats/actions.html. Additional details on NC DENR's updates to the EPA MATS modeling platform to incorporate emissions in North Carolina are included in the State's April 12, 2013, SIP revision.

To provide a full evaluation, the State also compared total man-made (anthropogenic) emissions of VOC and NOx for the years 2007 (base year), 2011, and 2018 using a RVP of 7.8

psi for Davidson, Forsyth, Guilford and Davie Counties (the remaining Counties are currently using a RVP of 9.0 psi) to emissions generated for the year 2018, using a RVP of 9.0 psi.

There are four different man-made emission inventory source classifications: (1) point, (2) area, (3) on-road mobile and (4) non-road mobile.

(1) Point sources are those stationary sources that emit more than 10 tons per year of VOC or 100 tons per year of NOx from a single facility. The source emissions are tabulated from data collected by direct on-site measurements of emissions or mass balance calculations utilizing emission factors from EPA's AP-42, *Compilation of Air Pollutant Emission Factors*. For the projected year's inventory, point sources are adjusted by growth factors based on Standard Industrial Classification codes. The growth factors are generated using the EPA's Economic Growth Analysis System version 5.0 (E-GAS 5.0) program.

(2) Area sources are those stationary sources whose emissions are relatively small but due to the large number of these sources, the collective emissions could be significant (i.e., dry cleaners, service stations, etc.). For area sources, emissions are estimated by multiplying an emission factor by some known indicator of collective activity such as production, number of employees, or population. These types of emissions are estimated on the county level. For the projected year's inventory, area source emissions are changed by population growth, projected production growth, or when applicable, by E-GAS 5.0 growth factors.

(3) On-road mobile sources are those vehicles that travel on the roadways. For on-road mobile sources, the MOVES model data represent the new motor vehicle emission budgets for the Triad Area. The MOVES model uses the road class VMT and other operating conditions as input parameters to generate an output file that contains estimated emissions. For the projected years inventories, the on-road mobile sources emissions are calculated by running the MOVES

mobile model for the future year with the projected VMT to generate emissions that take into consideration expected Federal tailpipe standards, fleet turnover and new fuel standards.

(4) non-road mobile sources are equipment that can move but do not use the roadways (i.e., lawn mowers, construction equipment, railroad locomotives, aircraft). With the exception of the railroad locomotives and aircraft engines, the emissions from this category are calculated using the EPA's NONROAD2008a non-road mobile model. The railroad locomotive and aircraft engine emissions are estimated by taking an activity and multiply by an emission factor. All emissions are also estimated at the county level. Total off-road mobile source emissions represent the sum of emissions generated by the NONROAD 2008a model and emissions calculated for aircraft and railroad locomotives.

Despite the small increases in emissions projected for the less-stringent RVP standard of 9.0 psi, the Triad Area continues to demonstrate a downward trend in NOx and VOC emissions through 2018. Tables 3 and 4 below provide the emissions inventory estimates for all source categories for the 1-hour ozone maintenance area.

Table 3 - Anthropogenic VOC Emissions *(tpd)* for the Triad 1-Hour Maintenance Area

County	**Based on RVP of 7.8**			**Based on RVP of 9.0**
	2007	**2011**	**2018**	**2018**
Davidson	19.31	17.60	14.29	14.50
Davie*	8.04	7.79	8.43	8.43
Forsyth	36.62	32.63	32.69	33.18
Guilford	58.31	53.71	51.10	51.83
Total	**122.28**	**111.73**	**106.51**	**107.94**

* Emissions are for the entire County

Table 4 - Anthropogenic NOx Emissions *(tpd)* for the Triad 1-Hour Maintenance Area

County	Based on RVP of 7.8			Based on RVP of 9.0
	2007	**2011**	**2018**	**2018**
Davidson	21.99	17.94	9.88	9.91
Davie*	6.08	4.41	2.75	2.75
Forsyth	35.88	24.47	16.50	16.54
Guilford	57.68	44.76	28.00	28.09
Total	**121.63**	**91.58**	**57.13**	**57.29**

* Emissions are for the entire County

As Tables 3 and 4 indicate, NOx and VOC emissions in the Triad 1-hour ozone maintenance area will continue to decrease, even with the increase in high ozone season fuel RVP to 9.0 psi. The slight increase in emissions resulting from the control program change is being mitigated area-wide by a steady decrease in tailpipe emissions, which is the result of a cleaner new vehicle fleet replacing the older fleet and other Federal and State emissions reduction programs.

In light of the current designations, monitoring and emissions data, and the submitted modeling, including the fact that the NOx emissions inventories are projected to continue to significantly decrease, EPA has preliminarily determined that the slight increase in NOx and VOC emissions associated with the request RVP change will not interfere with the Area's ability to maintain the 1997 and 2008 8-hour ozone NAAQS. More details on the individual non-interference analyses for the PM, NO_2 and CO NAAQS are provided below.

c. Non-interference Analysis for the PM NAAQS

The precursors for $PM_{2.5}$ are NOx, SO_2, VOC and ammonia. For the Triad Area, on-road mobile, non-road mobile and area sources are not considered to be large contributors to directly emitted $PM_{2.5}$ or indirectly formed fine particulate matter less than 2.5 micrometers ($PM_{2.5}$) concentrations. As mentioned earlier in this rulemaking, the RVP requirements result in

emissions benefits for VOC and NOx, and as such EPA focused on these precursors for the analysis of the potential impact of North Carolina's SIP change. However, as described in North Carolina's April 12, 2013, submission, directly emitted $PM_{2.5}$ is a very small component of the overall $PM_{2.5}$ ambient concentrations. Instead the primary species impacting $PM_{2.5}$ concentrations are the secondarily formed sulfates and organic carbons. Sulfates are formed through the chemical reaction of SO_2 and ammonia and the majority of the organic carbons come from natural sources like trees. *See* "Redesignation Demonstration and Maintenance Plan for the Hickory (Catawba County) and Greensboro/Winston-Salem/High Point (Davidson and Guilford Counties) Fine Particulate Matter Nonattainment Areas," submitted to EPA on December 18, 2009, Figure 4-2, p. 4-4, which can be accessed at www.regulations.gov using docket ID No. EPA-R04-OAR-2009-1010. A 2009 analysis of SO_2 emissions, which is a primary contributor to the formation of $PM_{2.5}$ within North Carolina, found about 3.3 percent of total SO_2 emissions came from on-road, non-road and area sources combined, while the remaining 96.7 percent came from point sources.

On July 18, 1997 (62 FR 36852), EPA established an annual $PM_{2.5}$ NAAQS at 15.0 micrograms per cubic meter ($\mu g/m^3$) based on a 3-year average of annual mean $PM_{2.5}$ concentrations. At that time, EPA also established a 24-hour NAAQS of 65 $\mu g/m^3$. *See* 40 CFR 50.7. On October 17, 2006 (71 FR 61144), EPA retained the 1997 annual $PM_{2.5}$ NAAQS at 15.0 $\mu g/m^3$ based on a 3-year average of annual mean $PM_{2.5}$ concentrations, and promulgated a new 24-hour NAAQS of 35 $\mu g/m^3$ based on a 3-year average of the 98th percentile of 24-hour concentrations. On January 15, 2013 (78 FR 3086), EPA established an annual primary $PM_{2.5}$ NAAQS at 12.0 $\mu g/m^3$ based on a 3-year average of annual mean $PM_{2.5}$ concentrations. At that time, EPA retained the 2006 24-hour NAAQS at 35 $\mu g/m^3$ based on a 3-year average of the 98th

percentile of 24-hour concentrations.

On January 5, 2005 (70 FR 944), Davidson and Guilford Counties in the Triad Area were designated nonattainment for the 1997 annual $PM_{2.5}$ standard and all other Counties were designated Unclassifiable/Attainment. On November 13, 2009 (74 FR 58688), all counties in the Triad Area were designated unclassifiable/attainment for the 2006 24-hour $PM_{2.5}$ standard. On November 18, 2011, EPA redesignated Davidson and Guilford Counties to attainment for the 1997 annual $PM_{2.5}$ standard based on the measured air quality data and the 10-year maintenance plan submitted. *See* 76 FR 71455.

As Table 5 indicates the $PM_{2.5}$ annual and 24-hour design values demonstrate attainment of the respective NAAQS and have been decreasing.

Table 5 - $PM_{2.5}$ Design Values

Year	2008-2010	2009-2011	2010-2012
Annual Design Value			
Caswell	9.9	8.9	8.9
Davidson	12.1	11.1	11.1
Forsyth	10.9	10.0	9.7
Guilford	10.8	9.8	9.4
24-hour Design Value			
Caswell	19	18	18
Davidson	23	21	21
Forsyth	23	21	20
Guilford	22	21	21

EPA Annual PM2.5 NAAQS: 15 ug/m3
EPA 24-hour PM2.5 NAAQS: 35 ug/m3

In light of the slight increase in VOC and NOx emissions from the relaxation of the RVP controls in Davidson, Davie, Forsyth and Guilford Counties, EPA has preliminarily determined that a change to the Federal RVP requirement for Davidson, Davie, Forsyth and Guilford Counties would not interfere with the Triad Area maintaining the 1997 $PM_{2.5}$ annual or the 2006

24-hour $PM_{2.5}$ standards. The photochemical modeling analysis discussed above was also used to calculate the changes in $PM_{2.5}$ due to the RVP Program change. The analysis showed no change in particle pollution at any of the monitors.

d. Non-interference Analysis for the 2010 NO_2 NAAQS

On February 17, 2012 (77 FR 9532), EPA finalized designations for 2010 NO_2 NAAQS. Counties in North Carolina, including those in the Triad Area, were designated unclassifiable/attainment for the 2010 NO_2 NAAQS. Based on North Carolina's April 12, 2013, SIP revision, the potential increase in the NOx emissions associated with the requested less-stringent RVP standard is approximately a quarter of a ton per day between June 1st and September 15th. It is reasonable to believe that North Carolina's requested change for its high ozone season RVP requirement would not cause the Area to be out of compliance with the 2010 NO_2 NAAQS because the slight projected NOx emissions increase would be mitigated by a steady decrease in tailpipe emissions, which is the result of cleaner new vehicle fleet replacing the older fleet. In light of the current designation, monitoring and emissions trend data and the submitted modeling, including the fact that NOx emissions inventories are projected to continue to significantly decrease,[11] EPA has preliminarily determined that a change to the Federal RVP requirements for the Triad Area would not interfere with the continued decline in NOx emissions, nor with attainment or maintenance of the 2010 NO_2 NAAQS.

[11] See table 5, above.

e. Non-interference Analysis for the CO NAAQS

Forsyth County in the Triad Area was previously designated nonattainment for the 8-hour CO NAAQS. *See* 56 FR 56694, November 6, 1991. Subsequently, Forsyth County attained the 8-hour CO NAAQS and was redesignated from nonattainment to attainment on September 21, 1994, based on the measured air quality data and the 10-year maintenance plan submitted. *See* 59 FR 48399. The 8-hour CO NAAQS is 9 ppm and the 1-hour CO NAAQS is 35 ppm. As provided in Table 6 below, monitoring data from 2008-2011 shows Forsyth County is well below the 8-hour and 1-hour CO NAAQS.

Table 6 - Ambient Air Quality CO 8-Hour and 1-Hour Design Values (ppm)

County	Monitor ID	2009	2010	2011	2012
8-hr NAAQS					
Forsyth	370670023	1.7	1.9	2.1	1.2
1-hr NAAQS					
Forsyth	370670023	2.3	2.7	2.6	1.8

It is estimated that Triad Area on-road CO emissions will increase approximately 5 tons per day in 2016 if the applicable RVP requirement is relaxed to 9.0 psi in the Triad Area. This increase equates to a less than a 1.0 percent increase in the total inventory of all anthropogenic sources for the Triad Area. In light of the slight increase in CO emissions EPA has preliminarily determined that a change to the Federal RVP requirement for Greensboro/Winston-Salem/High Point would not interfere with the Winston-Salem/Forsyth County Area maintaining the CO NAAQS.

VI. Proposed Action

EPA is proposing to approve the State of North Carolina's April 12, 2013, revision to its 110(a)(1) Maintenance Plan for the Triad 1997 8-hour Ozone Maintenance Area. Specifically, EPA is proposing to approve the State's showing that the Triad Area can continue to maintain the 1997 ozone standard without emissions reductions associated with the use of gasoline with an RVP of 7.8 psi in the four Triad Area counties during the high ozone season – June 1 through September 15.

In addition, due to the updated modeling reflecting a change in the applicable RVP standard, the North Carolina revision also includes an updated on-road mobile, non-road mobile and area source emissions for the Triad Area. EPA is also proposing approval of this revision.

EPA has preliminarily determined that North Carolina's April 12, 2013, SIP revision, including the technical demonstration associated with the State's request for the removal of the Federal RVP requirements, and the updated on-road mobile, non-road mobile and area source emissions are consistent with the applicable provisions of the CAA. Should EPA decide to remove subject portions of the Triad Area from those areas subject to the 7.8 psi Federal RVP requirements, such action will occur in a separate, subsequent rulemaking.

VII. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submittal that complies with the provisions of the Act and applicable federal regulations. 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, this proposed action merely approves state

law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- is 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.*);
- does 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);
- does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, October 7, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is 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
- does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this proposed rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Intergovernmental relations, Lead, Reporting and recordkeeping requirements.

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

Dated: November 12, 2013

Beverly H. Banister,
Acting Regional Administrator,
Region 4.

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