



6560-50-P

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[EPA-R04-OAR-2018-0617; FRL-9989-40-Region 4]

#### **Air Plan Approval; GA: Non-Interference Demonstration and Maintenance Plan Revision**

#### **for Federal Low-Reid Vapor Pressure Requirement in the Atlanta Area**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to approve a State Implementation Plan (SIP) revision that would support a change to the Federal Reid Vapor Pressure (RVP) requirements in 13 counties in Atlanta, Georgia. They comprise the following counties: Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Paulding, and Rockdale (the “Atlanta fuel volatility Area”). The Atlanta fuel volatility Area is a subset of the Atlanta 15-county 2008 8-hour ozone maintenance area. The 15-county 2008 8-hour ozone maintenance area is comprised of the following counties: Bartow, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, and Rockdale (the “Atlanta maintenance Area”). This proposed approval is based in part on EPA’s analysis of whether the SIP revision would interfere with the 15-county Atlanta maintenance Area’s ability to meet the requirements of the Clean Air Act (CAA or Act). On August 15, 2018, Georgia through the Georgia Environmental Protection Division (GA EPD), submitted a noninterference demonstration to support its SIP revision requesting that EPA relax the federal RVP requirements for the Atlanta fuel volatility Area. This SIP revision

updates Georgia's 2008 8-hour ozone maintenance plan for the 15-county Atlanta maintenance Area and its emissions inventory, the associated motor vehicle emissions budgets (MVEBs) and includes measures to offset the emissions increases expected from the relaxation of the federal RVP requirements. Georgia's noninterference demonstration concludes that relaxing the federal RVP requirement from 7.8 pounds per square inch (psi) to 9.0 psi for gasoline sold between June 1 and September 15 of each year in the Atlanta fuel volatility Area would not interfere with attainment or maintenance of any national ambient air quality standards (NAAQS or standards) or with any other CAA requirement. EPA is proposing to approve this SIP revision because EPA has preliminarily determined that the revision is consistent with the applicable provisions of the CAA.

**DATES:** 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 No. EPA-R04-OAR-2018-0617 at <http://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public

comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

**FOR FURTHER INFORMATION CONTACT:** Dianna Myers, 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. Ms. Myers can be reached via telephone at (404) 562-9207 or via electronic mail at Myers.Dianna@epa.gov

**SUPPLEMENTARY INFORMATION:**

**I. What is EPA Proposing?**

This rulemaking proposes to approve Georgia's SIP revision for the maintenance plan, submitted on August 15, 2018, that would support the State's request that EPA relax the federal RVP requirement from 7.8 psi to 9.0 psi for gasoline sold between June 1 and September 15 of each year (high ozone season) in the Atlanta fuel volatility Area. EPA is also proposing to find that Georgia has demonstrated that changing the federal RVP requirements in the Atlanta fuel volatility Area will not interfere with attainment or maintenance of any NAAQS or with any other applicable requirement of the CAA.

On July 18, 2016, Georgia submitted a 2008 8-hour ozone redesignation request and maintenance plan for the 15-county 2008 8-hour ozone Atlanta maintenance Area, which EPA approved on June 2, 2017 (82 FR 25523). With its redesignation request, Georgia included a maintenance plan demonstration that estimated emissions through 2030 and modeled the federal 7.8 psi RVP summer gasoline volatility limit in the emissions calculations. The August 15, 2018, submittal updates Georgia's 2008 8-hour ozone maintenance plan mobile emissions

inventory, associated MVEBs, and includes measures to offset the emissions increases resulting from any relaxation of the federal RVP requirements. The offset measures are described in Section V, below. The updates are summarized in Georgia's submittal which can be viewed at <http://www.regulations.gov>.

To support the August 15, 2018, SIP revision Georgia evaluated whether changing the 7.8 psi RVP to 9.0 psi RVP federal requirement would interfere with air quality in the 15-county Atlanta maintenance Area. To make this demonstration of noninterference, Georgia completed a technical analysis, including using the current version of EPA's Motor Vehicle Emissions Simulator (MOVES2014a) to project the change in emissions that would result from the RVP relaxation of 7.8 psi to 9.0 psi in the 15-county Atlanta maintenance Area.

In this noninterference demonstration, Georgia used MOVES2014a to develop its projected emissions inventory according to EPA's guidance for on-road and nonroad mobile sources. Georgia used the NONROAD 2008 model within MOVES2014a to develop the nonroad emissions inventory to reflect the emissions changes from relaxing the RVP of 7.8 psi to 9.0 psi in the Atlanta fuel volatility Area.

The 2014 attainment base year mobile emissions were taken directly from the 2008 maintenance SIP and future-year on-road mobile source emissions estimates for 2018, 2020, 2030, and 2040 were modeled using a RVP input parameter of 10.0 psi.<sup>1</sup> Georgia interpolated years 2025 and 2035 to further illustrate the downward trend in emissions. Georgia selected years 2020, 2030 and 2040 because these years are used by the Atlanta Regional Commission in Atlanta's transportation conformity determinations. The 2008 8-hour maintenance plan showed

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<sup>1</sup> The input parameter of 10.0 psi includes a RVP of 9.0 psi with a 1 percent ethanol waiver.

compliance with and maintenance of the 2008 8-hour ozone NAAQS until the 2030 outyear by providing information to support the demonstration that current and future emissions of nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC) remained at or below the 2014 base year emissions inventory. For more detailed information on the current approved maintenance plan, see EPA's December 23, 2016 (81 FR 94283), proposed approval of Georgia's maintenance plan for the 2008 8-hour ozone NAAQS.

In this action, EPA is proposing to approve the State's technical demonstration that the 15-county Atlanta maintenance Area can continue to attain and maintain the 2008 ozone NAAQS, as well as other NAAQS, and meet all other CAA requirements after changing to the sale of gasoline with a RVP of 9.0 psi during the high ozone season in the 13-county Atlanta fuel volatility Area. EPA is also proposing to approve the revised mobile emissions inventory, the associated MVEBs, and the measures to offset the emissions increases due to relaxation of the federal RVP requirements. EPA's section 110(l) analysis of the noninterference demonstration included as a part of Georgia's August 15, 2018, SIP revision is provided below. Consistent with CAA section 211(h) and the Phase II volatility regulations, EPA will initiate a separate rulemaking to relax the current federal requirement to use gasoline that complies with the federal RVP limit from 7.8 psi to 9.0 psi in the 13-county Atlanta fuel volatility Area.

## **II. What is the Background for the Atlanta Area?**

On November 6, 1991 (56 FR 56694), EPA designated and classified the following counties in and around the Atlanta, Georgia metropolitan area as a Serious ozone nonattainment area for the 1-hour ozone NAAQS: Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Paulding, and Rockdale. This 13-county 1-hour

ozone area is the “Atlanta fuel volatility Area.” The nonattainment designation triggered various requirements for the Atlanta 1-hour ozone nonattainment area. One of those requirements for the 1-hour ozone nonattainment area was the federal 7.8 psi RVP limit for gasoline sold between June 1 and September 15, which is the subject of this action.

Because the Atlanta 1-hour ozone nonattainment area failed to attain the 1-hour ozone NAAQS by November 15, 1999, EPA issued a final rulemaking action on September 26, 2003, to reclassify or “bump up,” the area to a Severe ozone nonattainment area. This reclassification became effective on January 1, 2004 (68 FR 55469). EPA redesignated the Atlanta 1-hour ozone nonattainment area to attainment for the 1-hour ozone NAAQS, effective June 14, 2005 (70 FR 34660).

On April 30, 2004 (69 FR 23858), EPA designated the following 20 counties in and around metropolitan Atlanta as a Marginal nonattainment area for the 1997 8-hour ozone NAAQS: Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Henry, Newton, Paulding, Rockdale, Spalding, and Walton. The Atlanta fuel volatility Area is a sub-set of this 20-county area. Subsequently, EPA reclassified the Atlanta 1997 8-hour ozone nonattainment area as a Moderate nonattainment area on March 6, 2008 (73 FR 12013), because the area failed to attain the 1997 8-hour ozone NAAQS by the required attainment date of June 15, 2007. Subsequently, the Atlanta 1997 8-hour ozone nonattainment area attained the 1997 8-hour ozone standard, and on December 2, 2013 (78 FR 72040), EPA redesignated the area to attainment for the 1997 8-hour ozone NAAQS.

Effective July 20, 2012, EPA designated the following 15-counties Marginal nonattainment for the 2008 8-hour ozone NAAQS: Bartow, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Paulding, and Rockdale. As mentioned before, the Atlanta fuel volatility Area is sub-set of this 15-county area. The 15-county Atlanta 2008 8-hour ozone nonattainment area did not attain the 2008 8-hour ozone NAAQS by the attainment date of July 20, 2015, and therefore on May 4, 2016, EPA published a final rule reclassifying the area from a Marginal nonattainment area to a Moderate nonattainment area for the 2008 8-hour ozone standard (81 FR 26697). Moderate areas were required to attain the 2008 8-hour ozone NAAQS no later than July 20, 2018, six years after the effective date of the initial nonattainment designations. *See* 40 CFR 51.1103.

Under the provisions of EPA's ozone implementation rule for the 2008 8-hour ozone NAAQS (40 CFR part 51, subpart AA), EPA can issue a determination that an area is attaining the relevant standard, also known as a Clean Data Determination (40 CFR 51.1118). On July 14, 2016 (81 FR 45419), EPA determined that the Atlanta 2008 8-hour ozone nonattainment area attained the 2008 8-hour ozone NAAQS based on complete, quality-assured, and certified ozone monitoring data for years 2013 through 2015. On July 18, 2016, Georgia submitted a 2008 8-hour ozone redesignation request and maintenance plan for the area (hereafter the "Atlanta maintenance Area), which EPA approved on June 2, 2017 (82 FR 25523).

At the time of all of the redesignations to attainment noted above (for the 1979 1-hour ozone NAAQS, the 1997 8-hour ozone NAAQS, and the 2008 8-hour ozone NAAQS), Georgia did not request relaxation of the federal 7.8 psi RVP requirement for the Atlanta fuel volatility

Area. Georgia is now requesting relaxation of the federal 7.8 psi RVP requirement to 9.0 psi for the Atlanta fuel volatility Area

On October 1, 2015, EPA revised the 8-hour ozone standard from 0.075 ppm to 0.070 ppm (80 FR 65292). Subsequently, on June 4, 2018, EPA published a final rule (effective date August 3, 2018) designating the following 7 Atlanta counties Marginal nonattainment for the 2015 8-hour ozone NAAQS: Bartow, Clayton, Cobb, Dekalb, Fulton, Gwinnett and Henry (83 FR 25776). The 7 counties comprising the 2015 8-hour ozone nonattainment area are also part of the 13-county Atlanta fuel volatility Area. Areas designated Marginal nonattainment must attain the standard by August 3, 2021.

### **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 VOCs, 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. 40 CFR 80.27(a)(1). 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 a 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. 40 CFR 80.27(a)(2). The modified regulations prohibited the sale of gasoline with a 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). A current listing of the federal RVP requirements for states can be found on EPA's website at:

<https://www.epa.gov/gasoline-standards>.

As explained in the December 12, 1991 (56 FR 64704), Phase II rulemaking, EPA believes that relaxation of an applicable federal 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 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 can maintain 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 without the need for the more stringent volatility standard. As mentioned before, under the initial 1-hour ozone nonattainment designation, the 13-county Atlanta fuel volatility Area was required to sell gasoline that complied with the federal 7.8 psi RVP limit from June 1 to September 15 of each year.

Additionally, to comply with the 1-hour ozone NAAQS, Georgia adopted a state fuel program through Georgia Rule 391-3-1-.02(2)(bbb), *Gasoline Marketing*, (hereafter "Georgia Rule"), which required the sale of low sulfur gasoline with an RVP of 7.0 psi during the high ozone season in a 45-county Georgia Fuel Area. The Georgia Fuel Area included the 20-county 1997 8-hour ozone maintenance and the 15-county 2008 8-hour nonattainment areas (the 15-county area being a subset of the 20-county area) with the remaining counties considered "counties of influence." The Georgia Rule was implemented through a waiver under section 211(c)(4)(C) of the CAA, which allowed the adoption of a state fuel program more stringent than the Federal requirement. EPA incorporated the Georgia Rule into the Georgia SIP on July 19, 2004 (69 FR 33862). The Georgia Rule was removed from the Georgia SIP effective October 1,

2015 (80 FR 52627).

Again, Georgia did not request relaxation of the applicable 7.8 psi federal RVP standard for the 13-county Atlanta fuel volatility Area when the Area was redesignated to attainment for the 1979 1-hour ozone NAAQS, the 1997 8-hour ozone NAAQS, and the 2008 8-hour ozone NAAQS. Georgia is therefore now submitting a revision to the 2008 8-hour ozone NAAQS maintenance plan and a non-interference demonstration concluding that relaxing the federal RVP requirement from 7.8 psi to 9.0 psi for gasoline sold between June 1<sup>st</sup> and September 15<sup>th</sup> of each year in the Atlanta fuel volatility Area would not interfere with attainment or maintenance of any of the NAAQS.

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

The modeling associated with Georgia's maintenance plan for the 2008 8-hour ozone NAAQS, approved on June 2, 2017, was premised upon the future-year emissions estimates for 2018, 2022, 2026, and 2030, which include the federal 7.8 psi RVP requirement in the Atlanta fuel volatility Area. To approve Georgia's request to relax the federal RVP requirement in the Atlanta fuel volatility Area, EPA must conclude that requested change will satisfy section 110(l) of the CAA. Section 110(l) requires that a revision to the SIP not interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 171), or any other applicable requirement of the Act. In this submittal, Georgia's modeling includes the same future years but is based on the federal 9.0 psi RVP limit. EPA is proposing approval of the noninterference demonstration based on an evaluation of current air quality monitoring data and the information provided in the noninterference demonstration.

Additionally, in the absence of an attainment demonstration, to demonstrate no interference with any applicable NAAQS or requirement of the CAA under section 110(l), EPA believes it is appropriate to allow states to substitute equivalent emissions reductions to compensate for any change to a SIP-approved program, as long as actual emissions in the air are not increased. “Equivalent” emissions reductions are reductions that are equal to or greater than those reductions achieved by the control measure approved in the SIP. To show that compensating emissions reductions are equivalent, adequate justification must be provided. The compensating, equivalent reductions should represent actual emissions reductions achieved in a contemporaneous time frame to the change of the existing SIP control measure order to preserve the status quo level of emission in the air. If the status quo is preserved, noninterference is demonstrated. In addition to being contemporaneous, the equivalent emissions reductions should also be permanent, enforceable, quantifiable, and surplus.

EPA evaluates each section 110(l) noninterference demonstration on a case-by-case basis considering the circumstances of each SIP revision. EPA interprets 110(l) as applying to all NAAQS that are in effect, including those for which SIP submissions have not been made. The degree of analysis focused on any particular NAAQS in a noninterference demonstration varies depending on a number of relevant factors, including the nature of the emissions associated with the proposed SIP revision. EPA’s section 110(l) analysis of the noninterference demonstration included as part of Georgia’s August 15, 2018, SIP revision is provided below.

**V. What is EPA’s Analysis of Georgia’s Submittal?**

**a. Proposed Conclusions Regarding Georgia’s Noninterference Demonstration**

On August 15, 2018, Georgia submitted a noninterference demonstration to support the

State's request to relax the federal summertime gasoline RVP limit from 7.8 psi to 9.0 psi for the Atlanta fuel volatility Area. This noninterference demonstration evaluates the 15-county Atlanta maintenance Area, which encompasses the smaller Atlanta fuel volatility Area, and the 7-county 2015 8-hour ozone nonattainment area. This demonstration includes an evaluation of the impact that the relaxation of the 7.8 psi RVP requirement would have on Atlanta's ability to maintain the 1997 and 2008 ozone standards. It also evaluates whether the relaxation of the federal RVP requirement would interfere with the ability of the 7-county 2015 8-hour ozone nonattainment area to attain the ozone standard by August 3, 2021, which is the attainment date for areas classified as Marginal, or with any of the other applicable NAAQS. Although the attainment date

is August 3, 2021, Marginal areas must show attainment using air quality data for years 2018 through 2020. The 2015 8-hour ozone NAAQS and other NAAQS are addressed later in this notice.

Georgia EPD focused its analysis on the impact of the relaxed federal RVP limit of 9.0 psi to attainment and maintenance of the ozone standards and its precursors NO<sub>x</sub> and VOC. RVP requirements do not affect lead (Pb), sulfur dioxide (SO<sub>2</sub>), or carbon monoxide (CO) emissions. Because VOC and NO<sub>x</sub> emissions are also precursors for PM, and NO<sub>x</sub> is a precursor for nitrogen dioxide (NO<sub>2</sub>), these pollutants will be discussed later in this Section. Georgia is currently in attainment for all PM NAAQS, SO<sub>2</sub>, NO<sub>2</sub>, CO, and Pb. The relaxation of the RVP requirement will have little to no impact on emissions of these pollutants or their related precursors.

In this noninterference demonstration, Georgia used EPA’s MOVES2014a model to develop its projected mobile (on-road and nonroad) emissions inventory according to EPA’s guidance for on-road and nonroad mobile sources. As mentioned before, the future-year on-road mobile source emissions estimates for 2018, 2020, 2025 and 2030, 2035 and 2040 were generated with MOVES2014a using a RVP input parameter of 10.0 psi. This noninterference demonstration modeled year 2018 to align with the 2008 8-hour ozone maintenance plan. Therefore, the year 2018 serves as a surrogate for the year 2019 when Georgia projects the relaxation of the federal RVP requirement would take place. The maintenance plan showed compliance with and maintenance of the 2008 8-hour ozone NAAQS by providing information to support this demonstration that current and future emissions of NO<sub>x</sub> and VOC remained at or below the 2014 2008 8-hour ozone attainment base year emissions inventory.<sup>2</sup> The analysis in this proposal will primarily refer to the years 2018 and 2030 to stay in alignment with the 2008 8-hour ozone maintenance plan. The emissions trend for year 2020 will be discussed later in the notice because attainment for the 2015 8-hour ozone NAAQS will be based on years 2018 through 2020. Also, based on modeling data from EPA’s Cross State Air Pollution Rule, the entire State of Georgia is showing attainment for the 2015 8-hour ozone NAAQS through 2023.<sup>3</sup>

Tables 1 and 2, below, show the direct impact on the on-road mobile source emissions due to a relaxation of the federal RVP requirements from 7.8 psi to 9.0 psi for the Atlanta fuel

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<sup>2</sup> The 2014 base year emissions are unchanged from the 2008 8-hour ozone maintenance plan included in Appendix A of this SIP revision.

<sup>3</sup> See the Peter Tsirigotis Memorandum dated October 19, 2018, entitled “Considerations for Identifying Maintenance Receptors for Use in Clean Air Act Section 11 0(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards.” See also <https://www.epa.gov/airmarkets/memo-and-supplemental-information-regarding-interstate-transport-sips-2015-ozone-naaqs>

volatility Area. As summarized below, on-road NO<sub>x</sub> and VOC emissions increase when the requirement is relaxed to 9.0 psi. NO<sub>x</sub> emissions increased by 0.29 and 0.05 tons per day (tpd) in 2018 and 2030, respectively in the 15-county Atlanta maintenance Area. VOC emissions also increased by 0.75 and 0.14 tpd in 2018 and 2030, respectively in the same area. While emissions of both precursors increase with a RVP relaxation to 9.0 psi, the increases decrease over time from 0.27 percent in 2018 to 0.13 percent in 2030 for NO<sub>x</sub> emissions and from 1.11 percent in 2018 down to 0.39 percent in 2030 for VOC emissions in the 15-county Atlanta maintenance Area. Even with the small increases in emissions for the 15-county Atlanta maintenance Area, the overall on-road emissions for NO<sub>x</sub> decrease from 106.23 tpd in 2018 to 39.60 tpd in 2030. Similarly, the overall on-road emissions for VOC decrease from 68.35 tpd in 2018 to 35.96 tpd in 2030 in the 15-county Atlanta maintenance Area. This indicates that changes in on-road emissions due to a relaxation of the federal RVP limit from 7.8 psi to 9.0 psi will not interfere with continued maintenance of the 2008 8-hour NAAQS in the 15-county Atlanta maintenance Area.

**Table 1. On-road NOx Emissions Before and After RVP Relaxation<sup>4</sup>**

<b>Pollutant and Region</b>	<b>Year</b>	<b>7.8 psi gasoline for 13 counties and 9.0 psi gasoline for 2 counties<sup>5</sup></b>	<b>9.0 psi gasoline for 15-counties</b>	<b>Emissions Increase with RVP relaxation</b>	<b>Emissions Increase with RVP Relaxation</b>
		Tpd	tpd	Tpd	%
<b>13-county area</b>	2018	94.49	94.78	0.29	0.31
	2020	76.49	76.70	0.21	0.28
	2025	55.61	55.74	0.13	0.23
	2030	34.74	34.78	0.05	0.14
	2035	29.08	29.10	0.02	0.07
	2040	23.43	23.42	-0.01	-0.04
<b>2-county area</b>	2018	11.45	11.45	0.0	0.0
	2020	9.49	9.49	0.0	0.0
	2025	7.16	7.16	0.0	0.0
	2030	4.82	4.82	0.0	0.0
	2035	4.36	4.36	0.0	0.0
	2040	3.90	3.90	0.0	0.0
<b>15-county<sup>6</sup> area</b>	2018	105.94	106.23	0.29	0.27
	2020	85.98	86.19	0.21	0.24
	2025	62.77	62.90	0.13	0.21
	2030	39.56	39.60	0.05	0.13
	2035	33.44	33.46	0.02	0.06
	2040	27.33	27.32	-0.01	-0.04

<sup>4</sup> In this table, and in tables 2 and 3 below, the 13-county area refers to the Atlanta 1-hour ozone area (referenced herein as the Atlanta fuel volatility Area) whereas the 15-county area refers to the Atlanta 2008 8-hour ozone area (referenced herein as the Atlanta maintenance Area). The 2-county area is the difference between the Atlanta 1-hour ozone area boundary and the Atlanta 2008 8-hour ozone boundary. This table is how the State references these areas in their submittal.

<sup>5</sup> As mentioned before, the 1 psi waiver for E10 is included in all calculations in this table. E10 is a fuel blend with 10 percent ethanol. Therefore, the actual input parameter is 8.8 psi and 10.0 psi. The 2-county area is not included in the original 13-county Atlanta fuel volatility Area and was never subject to the 7.8 psi RVP requirements. Federal RVP limits are 7.8 psi and 9.0 psi, not including the additional 1.0 psi that applies to 10 percent ethanol blends. Throughout the rest of the proposal we will refer to the RVP limits as 7.8 psi and 9.0 psi.

<sup>6</sup> In final calculations for the nonattainment area, an additional 0.03 tpd would be added to these values to account for the Senior Exemption. Senior citizens are exempt from the Inspection and Maintenance (I/M) program testing and thus 0.03 tpd (based on 2002 emissions comparisons) is used as a conservative estimate of disbenefit.



**Table 2. On-road VOC Emissions Before and After RVP Relaxation**

<b>Pollutant and Region</b>	<b>Year</b>	<b>7.8 psi gasoline for 13 counties and 9.0 psi gasoline for 2 counties<sup>7</sup></b>	<b>9.0 psi gasoline for 15-counties</b>	<b>Emissions Increase with RVP relaxation</b>	<b>Emissions Increase with RVP Relaxation</b>
		tpd	Tpd	Tpd	%
<b>13-county area</b>	2018	62.14	62.89	0.75	1.21
	2020	53.64	54.14	0.50	0.94
	2025	43.26	43.59	0.32	0.75
	2030	32.89	33.03	0.14	0.43
	2035	28.56	28.69	0.13	0.45
	2040	24.24	24.36	0.11	0.47
<b>2-county area</b>	2018	5.46	5.46	0.0	0.0
	2020	4.72	4.72	0.0	0.0
	2025	3.83	3.83	0.0	0.0
	2030	2.93	2.93	0.0	0.0
	2035	2.59	2.59	0.0	0.0
	2040	2.26	2.26	0.0	0.0
<b>15-county<sup>8</sup> area</b>	2018	67.60	68.35	0.75	1.11
	2020	58.36	58.86	0.50	0.86
	2025	47.09	47.41	0.32	0.68
	2030	35.82	35.96	0.14	0.39
	2035	31.16	31.29	0.13	0.42
	2040	26.50	26.61	0.11	0.42

Nonroad mobile sources include vehicles, engines, and equipment used for construction, agriculture, recreation, and other purposes that do not use roadways (e.g., lawn mowers, construction equipment, and railroad locomotives). Georgia did not address nonroad NOx

<sup>7</sup> As mentioned before, the 1 psi waiver for E10 is included in all calculations in this table. E10 is a fuel blend with 10 percent ethanol. Therefore, the actual input parameter is 8.8 psi and 10.0 psi. The 2-county area is not included in the original 13-county Atlanta fuel volatility Area and was never subject to the 7.8 psi RVP requirements. Federal RVP limits are 7.8 psi and 9.0 psi, not including the additional 1.0 psi that applies to 10 percent ethanol blends. Throughout the rest of the proposal we will refer to the RVP limits as 7.8 psi and 9.0 psi.

<sup>8</sup> In final calculations for the nonattainment area, an additional 0.03 tpd would be added to these values to account for the Senior Exemption. Senior citizens are exempt from the I/M program testing and thus 0.03 tpd (based on 2002 emissions comparisons) is used as a conservative estimate of disbenefit.

emissions because the NONROAD model within MOVES 2014a model indicated that the change in the RVP limit did not result in changes in NOx emissions from nonroad sources. Therefore, Georgia did calculate changes in nonroad VOC emissions before and after the relaxation as shown in Table 3, below.

**Table 3. Nonroad VOC Emissions Before and After RVP Relaxation**

<b>Pollutant and Region</b>	<b>Year</b>	<b>7.8 psi gasoline for 13 counties and 9.0 psi gasoline for 2 counties</b>	<b>9.0 psi gasoline for 15-counties</b>	<b>Emissions Increase with RVP relaxation</b>	<b>Emissions Increase with RVP Relaxation</b>
		tpd	Tpd	Tpd	%
<b>13-county area</b>	2018	45.15	45.97	0.82	1.82
	2020	44.74	45.58	0.84	1.88
	2025	46.48	47.37	0.89	1.91
	2030	48.23	49.17	0.94	1.95
	2035	51.11	52.11	1.00	1.96
	2040	54.00	55.06	1.06	1.96
<b>2-county area</b>	2018	1.59	1.59	0.0	0.0
	2020	1.51	1.51	0.0	0.0
	2025	1.48	1.48	0.0	0.0
	2030	1.46	1.46	0.0	0.0
	2035	1.52	1.52	0.0	0.0
	2040	1.59	1.59	0.0	0.0
<b>15-county NAA<sup>9</sup> area</b>	2018	46.74	47.56	0.82	1.75
	2020	46.25	47.09	0.84	1.82
	2025	47.97	48.86	0.89	1.86
	2030	49.69	50.63	0.94	1.89
	2035	52.64	53.64	1.00	1.90
	2040	55.59	56.65	1.06	1.91

<sup>9</sup> In final calculations for the nonattainment area, an additional 0.03 tpd would be added to these values to account for the Senior Exemption. Senior citizens are exempt from the Inspection and Maintenance (I/M) program testing and thus 0.03 tpd (based on 2002 emissions comparisons) is used as a conservative estimate of disbenefit.

As shown in Table 3, in the 15-county Atlanta maintenance Area, nonroad VOC emissions increased by 0.82 tpd in 2018 from 46.75 tpd to 47.56 tpd and by 0.94 tpd in 2030 from 49.69 tpd to 50.63 tpd when the federal RVP limit is relaxed to 9.0 psi. The nonroad VOC emissions increase from 1.75% in 2018 to 1.89% in 2030.

Tables 4 and 5, below show the 2014 NOx and VOC attainment inventories from all sectors (point, area, nonroad, and on-road) comparing the current 7.8 psi gasoline RVP to gasoline that complies with the federal gasoline RVP limit of 9.0 psi. Georgia calculated the change in emissions from attainment levels for both the 7.8 psi and 9.0 psi RVP gasoline and used the term “margin” to indicate the amount of the decrease in tpd from attainment (2014) to the maintenance (2030) and beyond (2040). The “allotted” amount is the difference in emissions from the 7.8 psi RVP gasoline to the 9.0 psi RVP gasoline. Georgia also shows the allotted difference as a percent.

**Table 4 - 2014 NOx Attainment Inventory Comparison 7.8 psi to 9.0 psi RVP**

<b>Year</b>	<b>Total 2014 NOx Attainment Inventory</b>	<b>Total NOx Emissions Inventory with current (7.8) RVP Gasoline</b>	<b>Total NOx Emissions Inventory with Relaxed (9.0) RVP Gasoline</b>	<b>Current RVP (7.8) Gasoline Margin (NOx)</b>	<b>Relaxed RVP (9.0) Gasoline Margin (NOx)</b>	<b>Amount of Margin Allotted to Relax RVP</b>	<b>Percent of Margin Allotted to Relax RVP</b>
	TPd	tpd	tpd	tpd	TPd	tpd	%
2014	283.09	283.09	N/A	0	N/A	N/A	N/A
2018	283.09	205.86	206.15	77.23	76.94	0.29	0.38
2020	283.09	181.23	181.44	101.86	101.65	0.21	0.21
2025	283.09	153.16	153.29	129.93	129.80	0.13	0.10
2030	283.09	125.09	125.14	158.00	157.95	0.05	0.03
2035	283.09	118.67	118.69	164.42	164.40	0.02	0.01
2040	283.09	112.25	112.24	170.84	170.85	-0.01	0.00

**Table 5 - 2014 VOC Attainment Inventory Comparison 7.8 psi to 9.0 psi RVP**

<b>Year</b>	<b>Total 2014 VOC Attainment Inventory</b>	<b>Total VOC Emissions Inventory with current (7.8) RVP Gasoline</b>	<b>Total VOC Emissions Inventory with Relaxed (9.0) RVP Gasoline</b>	<b>Current RVP (7.8) Gasoline Margin (VOC)</b>	<b>Relaxed RVP (9.0) Gasoline Margin (VOC)</b>	<b>Amount of Margin Allotted to Relax RVP</b>	<b>Percent of Margin Allotted to Relax RVP</b>
	tpd	tpd	tpd	tpd	tpd	tpd	%
2014	266.25	266.25	N/A	0	N/A	N/A	N/A
2018	266.25	246.71	248.29	19.54	17.96	1.58	8.09
2020	266.25	236.32	237.67	29.93	28.58	1.34	4.48
2025	266.25	225.15	226.36	41.10	39.89	1.21	2.94
2030	266.25	213.97	215.06	52.28	51.19	1.08	2.07
2035	266.25	210.64	211.77	55.61	54.48	1.13	2.03
2040	266.25	207.31	208.48	58.94	57.77	1.17	1.99

As shown in Table 4, when the RVP is relaxed, the total NOx emissions increase the most in 2018 by 0.29 tpd, from 205.86 tpd to 206.15 tpd. In the outyear, 2030, NOx emissions increase slightly by 0.05 tpd, from 125.09 tpd to 125.14 tpd when the federal RVP limit is relaxed. Although there are small increases in NOx, overall, total NOx emissions decrease by 170.85 tpd from the attainment year 2014 to the future year 2040.

Table 5 shows that the total VOC emissions increase in 2018 by 1.58 tpd, from 246.71 tpd to 248.29 tpd. In the outyear 2030, VOC emissions increase by 1.08 tpd, from 213.97 tpd to 215.06 tpd. Although there are emissions increases in VOC when the federal RVP limit is relaxed to 9.0 psi, there is an overall downward trend in emissions from the 2014 attainment year to the 2030 maintenance year. VOC emissions decrease from 266.25 tpd in 2014 down to 208.48 tpd in 2040 an overall decrease of 57.77 tpd.

Based on Tables 4 and 5, total NO<sub>x</sub> emissions in the 2014 attainment year when the RVP is relaxed to 9.0 psi trends downward from 283.09.15 tpd to 125.14 tpd. This gives a safety margin of 157.95 tpd. The VOC safety margin is 51.19 tpd because of the downward trend from the attainment level of 266.25 tpd to the maintenance level of 215.06 tpd with 9.0 psi RVP. A safety margin is the difference between the attainment level of emissions (from all sources) and the projected level of emissions (from all sources) in the maintenance plan.

Even with the increases in nonroad VOC emissions shown in Table 3, there is a downward trend in overall NO<sub>x</sub> and VOC. The downward trend in the total NO<sub>x</sub> and VOC emissions in the 2014 attainment inventories indicate that the 15-county Atlanta maintenance Area can continue to maintain the 1997 and 2008 8-hr ozone NAAQS because overall emissions will be below the 2014 attainment levels for the 2008 ozone NAAQS which is more than the 1997 ozone NAAQS.<sup>10</sup> Further, Georgia will need to offset the increase in emissions of 0.29 tpd of NO<sub>x</sub> and 1.58 tpd of VOC in order to demonstrate non-interference with the 2015 ozone NAAQS, as discussed below. Georgia will get contemporaneous, compensating, equivalent emissions reductions to offset the increase in emissions. Therefore, Atlanta's ability to attain the 7-county 2015 8-hour ozone NAAQS will not be affected. The offsets are explained in more detail later in this Section.

**b. Noninterference Analysis for the 2015 Ozone NAAQS**

As mentioned above, EPA determined that the 20-county Atlanta metropolitan area attained the 1997 8-hour ozone NAAQS of 0.08 ppm, effectively 0.084 ppm, and redesignated the area to attainment on December 2, 2013 (78 FR 72040). EPA determined that the 15-county

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<sup>10</sup> The 2008 ozone NAAQS is 0.075 ppm compared to the 1997 ozone NAAQS is 0.08 ppm, effectively 0.084 ppm.

Atlanta maintenance Area attained the 0.075 ppm 2008 8-hour ozone NAAQS on July 14, 2016, and EPA redesignated the area to attainment on June 2, 2017 (82 FR 25523).

The current 3-year design value for 2015-2017 for the Atlanta area is 0.075 ppm,<sup>11</sup> which demonstrates Atlanta is continuing to maintain the 1997 and 2008 8-hour ozone NAAQS. The 2015 8-hour ozone NAAQS is 0.070 ppm and the 7-county Atlanta area is currently designated nonattainment for this NAAQS as the current ozone design value is 0.075 ppm.

Table 6 below shows the ozone monitoring data from monitoring stations in Atlanta. As previously mentioned, the 7-county 2015 8-hour ozone nonattainment area must attain the 2015 8-hour ozone NAAQS by August 3, 2021, with air quality data for years 2018 through 2020. Tables 4 and 5 above show the trend in emissions from the 2008 8-hour ozone NAAQS attainment year (2014) through the maintenance year (2030). The emissions trend shows that even with a 9.0 psi RVP fuel, emissions remain below the attainment inventory level of 283.09 tpd for NOx and 266.5 for VOC. NOx emissions decrease by 76.94 tpd in 2018 and even more to 101.65 tpd in 2020. By 2030, NOx emissions will decrease by 157.95 tpd. Likewise, VOC emissions decrease by 17.96 tpd in 2018 to 28.58 tpd in 2020. By 2030, VOC emissions will decrease by 51.19 tpd. Based on the overall downward trend in emissions even with a 9.0 RVP fuel, and the offsetting, contemporaneous, compensating, equivalent, emissions reductions obtained for the 15-county Atlanta maintenance Area to account for the small increases due to a relaxation of the RVP requirement, EPA believes that a relaxation of the federal RVP

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<sup>11</sup> The design value for an area is the highest 3-year average of the annual fourth-highest daily maximum 8-hour concentration recorded at any monitor in the area.

requirement from 7.8 psi to 9.0 psi will not affect Atlanta’s ability to attain the 2015 8-hour ozone NAAQS. Again, a more detailed discussion regarding the offsets and ozone sensitivities in Atlanta will be given later in the notice.

**Table 6- 2015 – 2017 Design Value Concentrations for Atlanta (ppm)<sup>12</sup>**

Location (County)	Monitoring Station	4th Highest 8-hour Ozone Value			3-Year Design Values
		2015	2016	2017	2015-2017
Cobb	GA National Guard, McCollum Pkwy (13-067- 0003)	0.066	0.070	0.065	0.067
Coweta	University of W. Georgia at Newnan (13-077-0002)	0.066	0.066	0.057	0.063
DeKalb	2390-B Wildcat Road Decatur (13-089-0002)	0.071	0.074	0.068	0.071
Douglas	Douglas Co. Water Auth. W. Strickland St. (13-097- 0004)	0.070	0.071	0.066	0.069
Gwinnett	Gwinnett Tech, 5150 Sugarloaf Pkwy. (13-135- 0002)	0.071	0.078	0.065	0.071
Henry	Henry County Extension Office (13-151-0002)	0.070	0.078	0.067	0.071
Paulding	Yorkville, King Farm (13- 223-0003)	0.065	0.067	--	0.066
Rockdale	Conyers Monastery, 2625 GA Hwy. 212 (13-247- 0001)	0.068	0.076	0.065	0.069
Fulton	Confederate Ave., Atlanta (13-121-0055)	0.077	0.075	0.074	0.075

**c. Noninterference Analysis for the PM NAAQS**

Over the course of several years, EPA has reviewed and revised the PM<sub>2.5</sub> NAAQS

<sup>12</sup> These monitoring stations are representative of the air quality in the entire Atlanta area even though not all counties in the 7-county 2015 ozone nonattainment area have a monitoring station.

several times. On July 18, 1997, EPA established an annual PM<sub>2.5</sub> NAAQS of 15 micrograms per cubic meter (µg/m<sup>3</sup>) and designated the Atlanta area nonattainment for the 1997 annual PM<sub>2.5</sub> NAAQS on April 14, 2005 (70 FR 19844). The Atlanta area attained the 1997 annual NAAQS and was redesignated attainment on February 24, 2016 (81 FR 9114).

On September 21, 2006, EPA retained the 1997 annual PM<sub>2.5</sub> NAAQS of 15.0 µg/m<sup>3</sup> but revised the 24-hour PM<sub>2.5</sub> NAAQS from 65.0 µg/m<sup>3</sup> to 35.0 µg/m<sup>3</sup>, (71 FR 61144) effective October 17, 2006. The Atlanta area was never designated nonattainment for the 24-hour PM<sub>2.5</sub> NAAQS.

On December 14, 2012, EPA strengthened the annual primary PM<sub>2.5</sub> NAAQS from 15 µg/m<sup>3</sup> to 12.0 µg/m<sup>3</sup> (78 FR 3086). EPA designated Atlanta unclassifiable/attainment for the 2012 annual primary PM<sub>2.5</sub> NAAQS (80 FR 2206) on January 15, 2015. The current 2015-2017 design value for the annual and 24-hour PM<sub>2.5</sub> is 10.5 and 23.0 µg/m<sup>3</sup>, respectively.

The main precursor pollutants for PM<sub>2.5</sub> are NO<sub>x</sub>, SO<sub>2</sub>, VOC, and ammonia. As mentioned above, relaxing the federal RVP requirements only results in small emissions increases of VOC and NO<sub>x</sub>. Moreover, there have been a number of studies which have indicated that SO<sub>2</sub> is the primary driver of PM<sub>2.5</sub> formation in the Southeast.<sup>13</sup>

As previously stated, RVP does not affect the most significant PM<sub>2.5</sub> precursor (SO<sub>2</sub>). Based on this and the fact that the current PM<sub>2.5</sub> design values for the Atlanta area are below the

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<sup>13</sup> See, e.g., *Quantifying the sources of ozone, fine particulate matter, and regional haze in the Southeastern United States*, Journal of Environmental Engineering (June 24, 2009), available at: <http://www.sciencedirect.com/science/article/pii/S0301479709001893?via%3Dihub>



level of the 2012 annual primary and 2006 24-hour PM<sub>2.5</sub> NAAQS, EPA is proposing to determine that a relaxation of the federal 7.8 psi gasoline RVP limit to 9.0 psi for the affected counties would not interfere with the Atlanta area's ability to attain or maintain the annual primary and 24-hour PM<sub>2.5</sub> NAAQS in the area.

**d. Noninterference Analysis for the 2010 NO<sub>2</sub> NAAQS**

There are currently two primary nitrogen dioxide (NO<sub>2</sub>) standards. On February 9, 2010 (75 FR 6474), EPA established a 1-Hour NO<sub>2</sub> standard set at 100 ppb. In 1971, an annual standard was set at a level of 53 ppb and has remained unchanged. EPA designated all counties in Georgia, including all of those in the Atlanta area as unclassifiable/attainment for the 2010 NO<sub>2</sub> NAAQS on February 17, 2012 (77 FR 95320). Currently, Atlanta's 2015-2017 design value for the 2010 1-hour and annual NO<sub>2</sub> NAAQS is 56.0 and 17.9 ppb, respectively. Given that the area is well below the level of the NAAQS, the small NO<sub>2</sub> emissions increase from a RVP relaxation will not interfere the area's ability to continue to attain the NAAQS. EPA is proposing to determine that a change to a federal 9.0 psi RVP limit for the Atlanta fuel volatility Area would not interfere with attainment or maintenance of the 1-hour or annual NO<sub>2</sub> NAAQS.

**e. Noninterference Analysis for the SO<sub>2</sub> NAAQS**

On June 22, 2010 (75 FR 35520), EPA revised the SO<sub>2</sub> standard. There are both primary and secondary standards for SO<sub>2</sub>. The primary SO<sub>2</sub> NAAQS is a 3-year average of the 99<sup>th</sup> percentile of the daily maximum 1-hour concentration not to exceed 75 ppb. The secondary standard is a 3-hour concentration not to exceed 0.5 ppm more than once per year. On December 21, 2017, EPA designated all counties in Atlanta attainment/unclassifiable for the 2010 SO<sub>2</sub> NAAQS effective April 9, 2018 (83 FR 1098).

As mentioned earlier, SO<sub>2</sub> is the driver of PM<sub>2.5</sub> formation and it does not influence RVP. Therefore, based on the current designation and the 2015-2017 design value of 6.0 ppb, EPA is proposing to find that a change to federal 9.0 psi RVP limit fuel for the Atlanta fuel volatility Area will not interfere with attainment or maintenance of the 1-hour SO<sub>2</sub> NAAQS.

**f. Sensitivity of Ozone in Atlanta to NO<sub>x</sub> and VOC Emissions**

Control of NO<sub>x</sub> and VOC are generally considered the most important components of an ozone control strategy, and NO<sub>x</sub> and VOC make up the largest controllable contribution to ambient ozone formation. However, the metro Atlanta nonattainment/maintenance area has shown a greater sensitivity of ground-level ozone to NO<sub>x</sub> controls rather than VOC controls. This is due to high biogenic VOC emissions compared to anthropogenic VOC emissions in Georgia. Therefore, implemented control measures have focused on the control of NO<sub>x</sub> emissions. The Atlanta nonattainment/maintenance area is NO<sub>x</sub> limited in such a way that changes in anthropogenic VOC emissions have little effect on ozone formation.<sup>14</sup>

Sensitivities were modeled relative to 2018 emissions to evaluate the impact of NO<sub>x</sub> and VOC reductions on daily 8-hour maximum ozone concentrations. Each emissions sensitivity run reduced the 2018 anthropogenic NO<sub>x</sub> or VOC emissions (point, area, mobile, nonroad,

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<sup>14</sup> As part of the Southeastern Modeling Analysis and Planning (SEMAP) project, Georgia Institute of Technology performed an analysis of the sensitivity of ozone concentrations in the Eastern U.S. to reductions in emissions of both NO<sub>x</sub> and VOCs. This analysis was based off the 2007 and 2018 SEMAP modeling which used the Community Multi-scale Air Quality (CMAQ) model, version 5.01 with updates to the vertical mixing coefficients and land-water interface. May 1st through September 30th was modeled using a 12-km modeling grid that covered the Eastern U.S. Details of the modeling platform set-up can be found in Appendix C.

marine/aircraft/rail) within a specific geographic region by 30 percent. Georgia EPD examined the normalized sensitivities of NO<sub>x</sub> and VOC emissions on 8-hour daily maximum ozone concentrations (ppb ozone/TPD) at nine ozone monitors in Atlanta.<sup>15</sup>

The site-specific normalized NO<sub>x</sub> and VOC sensitivities were applied to the expected emissions increases due to a relaxation of the federal RVP limit from 7.8 to 9.0 psi. The emissions increases are based on 2018 values and represent the largest impact as the emissions increase will decrease each successive year. A relaxation of the federal RVP limit results in an increase of VOC emissions of 1.58 tpd in 2018. *See* Table 5. This includes nonroad vehicles and represents the largest impact in any of the modeled years. A relaxation of the federal RVP limit results in an increase of 0.29 tpd of NO<sub>x</sub> in 2018 in the 15-county Atlanta maintenance Area decreasing over time to near zero by 2040. *See* Table 5. The corresponding ozone increases at each monitor are found in Table 7 below and demonstrate insignificant increases in ozone concentrations. The calculated changes in ozone levels are well below the level of precision of the ambient ozone monitors (1 ppb or 0.001 ppm).<sup>16</sup> Since the corresponding ozone increase at all nine monitors would only be seen at the fifth decimal place,<sup>17</sup> these small increases could not impact maintenance or attainment of any ozone NAAQS.

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<sup>15</sup> For further details on the approach used to calculate the normalized sensitivities of NO<sub>x</sub> and VOC, please see Appendix D in Georgia's submittal.

<sup>16</sup> Ozone concentrations are reported in ppm and to three decimal places (e.g., 0.070 ppm); any additional decimal places are truncated.

<sup>17</sup> Because the increases in Table 7 is reported in ppb, the changes are in the 2<sup>nd</sup> decimal place.

**Table 7. Emissions Increases Due to Relaxation of the RVP and Effects on Ozone Formation**

<b>Monitor</b>	<b>Relaxation of the RVP from 7.8 psi to 9.0</b>				<b>Combined</b>
	<b>2018 NO<sub>x</sub> Emissions Increase (tpd)</b>	<b>Corresponding Ozone Increase at Monitor due to NO<sub>x</sub> Increase<sup>18</sup> (ppb)</b>	<b>2018 VOC Emissions Increase (tpd)</b>	<b>Corresponding Ozone Increase at Monitor due to VOC Increase (ppb)</b>	<b>Corresponding Ozone Increase at Monitor (ppb)</b>
Kennesaw	0.29	0.02149	1.58	0.00776	<b>0.029</b>
Newnan	0.29	0.02337	1.58	0.00278	<b>0.026</b>
Dawsonville	0.29	0.01488	1.58	0.00009	<b>0.015</b>
South Dekalb	0.29	0.02536	1.58	0.01083	<b>0.036</b>
Douglasville	0.29	0.02311	1.58	0.00658	<b>0.030</b>
Confederate Ave.	0.29	0.01864	1.58	0.01663	<b>0.035</b>
Gwinnett	0.29	0.02211	1.58	0.00417	<b>0.026</b>
McDonough	0.29	0.02521	1.58	0.00530	<b>0.031</b>
Conyers	0.29	0.02628	1.58	0.00521	<b>0.031</b>

**g. Emissions Increases and Offsets from Locomotive Retrofits and School Bus**

**Replacements**

As shown in Section V, Tables 4 and 5, relaxing the federal RVP limit from 7.8 to 9.0 psi results in an increase in NO<sub>x</sub> emissions in 2018 of 0.29 tons per day and 1.58 tons per day of VOC. The high ozone season runs from June 1st to September 15<sup>th</sup>, which is 107 days per calendar year. 40 CFR 80.27(a)(2). This results in equivalent emissions increases of 31.03 tons/year of NO<sub>x</sub> and 169.06 tons/year of VOC in the Atlanta fuel volatility Area during the high ozone season.

<sup>18</sup> See Appendix D of the submission.

As discussed above, Table 7 shows ozone formation in the 15-County Atlanta maintenance Area and the sensitivity to reductions of NO<sub>x</sub> and VOC emissions. The Area is a NO<sub>x</sub> limited area; therefore, the control of NO<sub>x</sub> emissions result in greater reductions of ozone compared to control of VOC emissions. The maximum VOC emissions increase resulting from a relaxation of the RVP from 7.8 psi to 9.0 psi is 1.58 tons per day (169.06 tons/year). This increase in VOC emissions can be converted to an equivalent increase in NO<sub>x</sub> emissions based on the ratio of normalized ozone sensitivities described in Paragraph f. as follows:

$$169.06 \text{ tons/year VOC} * (-0.00417 \text{ ppb/TPD VOC}) / (-0.07680 \text{ ppb/TPD NO}_x) \\ = \mathbf{9.179 \text{ tons/year NO}_x}$$

By adding the actual NO<sub>x</sub> emissions increase to the equivalent NO<sub>x</sub> emissions increase from VOC emissions using the sensitivity calculation, the resulting offset NO<sub>x</sub> emissions are:

$$31.03 \text{ tons/year of NO}_x + 9.179 \text{ tons/year of NO}_x \text{ (VOC equivalent reduction)} \\ = \mathbf{40.21 \text{ tons/year NO}_x \text{ offsets required}}$$

Georgia's SIP revision includes two offset measures – school bus replacements and rail locomotive conversions – to obtain the necessary emissions reductions. Georgia EPD has a strong school bus early replacement program. School bus replacement projects that were completed in 2017 using Diesel Emissions Reduction Act funding have resulted in NO<sub>x</sub> emissions reductions of 7.20 tons per year (tpy) in the Atlanta maintenance Area. Specifically, five old school buses (built in 2000-2003) in Paulding County were replaced with five 2017 school buses. Also, forty old school buses (built in 1999-2003) in Fulton County were replaced with forty 2017 school buses.<sup>19</sup> The replacements took place in 2017, which falls within the

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<sup>19</sup> Calculations of NO<sub>x</sub> emission reductions for the locomotives and school bus replacements are in Appendix E.

contemporaneous timeframe. Georgia has not previously relied on these emissions reductions to satisfy any CAA requirement.

The Locomotive Conversion Program consists of two components: 1) the conversion of three older traditional switcher locomotives into newly-available low emissions engine technology from Norfolk Southern Railway, Inc., and 2) Norfolk Southern Railway, Inc.’s conversion of two switchers into “slugs” which are driven by electrical motors whose electricity is received from companion “mother” locomotives. This configuration is referred to as mother-slug locomotives. Slugs do not have any direct emissions. The conversion took place in December 2017, which also falls within the contemporaneous timeframe and generated 38.81 tpy of NOx reductions. Georgia has not previously relied on the emissions reductions from the Locomotive Conversion Program to satisfy any CAA requirement. See Table 8 below for a summary of the offsets.

**Table 8 – NOx Emissions Increases/Offsets Required from Relaxing the RVP Standard in 2018**

<b>Source of Offset</b>	<b>Locomotive Conversions tpy</b>	<b>School Bus Replacements tpy</b>	<b>Total Decrease tpy</b>
NOx Emissions Decrease	38.81	7.20	46.01

Based on the available offsets from the locomotive conversion projects and school bus early replacement projects, Georgia EPD has offsets in excess of the increase in emissions associated with relaxing the federal gasoline RVP limit from 7.8 psi to 9.0 psi.

**Table 9 - Emissions Increases Compared to Available Emissions Offsets**

<b>Emissions Increases Due to Relaxing GA RVP Requirements Tpy</b>	<b>Total Offsets Available tpy</b>	<b>Residual Offsets tpy</b>
40.21	46.01	5.80

The offsets available from both bus replacements and locomotive conversions total 46.01 tpy of NO<sub>x</sub>. As shown in Table 9, the annual NO<sub>x</sub> decrease from the locomotive conversions and school bus replacements are more than adequate to offset the maximum NO<sub>x</sub> and VOC emissions increases (40.21 tpy of equivalent NO<sub>x</sub>) associated with relaxing the federal 7.8 psi RVP requirements. There is a 5.80 ton per year residual NO<sub>x</sub> emissions offset that will remain available.

Georgia has demonstrated noninterference by substituting quantifiable, permanent, surplus, enforceable and contemporaneous measures described above to achieve equivalent emissions reductions to offset the potential emission increases related to a relaxation of the federal 7.8 psi RVP requirements. The locomotive conversions and school bus replacements occurring in 2017 are surplus since they have not been relied upon by any attainment plan or demonstration or credited in any RFP demonstration. The converted locomotives must remain operational for a period of ten years from the date placed into revenue service (December 2027). The school buses replaced must be scrapped or rendered permanently disabled or remanufactured to a cleaner emissions standard within 90 days of replacement. Therefore, the emissions reductions obtained are considered permanent. The emissions reductions have been quantified. Enforceability of the emissions reductions from locomotive conversions and school bus

replacements are addressed in the contract commitments between Georgia EPD and Norfolk Southern Railway, Inc.<sup>20</sup> The locomotive and school replacements are contemporaneous since they occurred within one year of this submittal.

**h. Conclusion Regarding the Noninterference Analysis**

EPA believes that the emissions reductions from the offset measures included in the SIP revision are greater than those needed to maintain the status quo in air quality and are permanent, enforceable, quantifiable, surplus, contemporaneous and equivalent. This RVP relaxation will not worsen air quality because Georgia has provided offsets as compensating, equivalent emissions reductions to negate the increases in emissions from NOx and VOCs. The amount of NOx reductions obtained from the school bus and locomotive retrofits are more than what is needed to compensate for the small amount of NOx and VOC increases due to relaxation of the federal RVP requirement. In addition, the downward trend in emissions reflected in the NOx and VOC attainment inventories summarized in Tables 4 and 5 shows the safety margins in the maintenance year 2030 of 157.95 tpd for NOx and 51.19 tpd for VOC. Therefore, EPA has preliminarily determined that the SIP revision adequately demonstrates that relaxing the 7.8 psi RVP limit will not interfere with Atlanta's ability to attain the 2015 8-hour ozone NAAQS or maintain the 1997 and 2008 8-hour ozone NAAQS, and will not interfere with any other NAAQS, or with any other applicable requirement of the CAA.

**i. Analysis of Updated 2030 MVEBs**

This SIP revision includes an update to the mobile emissions inventory and associated

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<sup>20</sup> See Appendix E for the contract terms for the permanence of locomotive conversions and school bus replacements.



2030 MVEBs due to a relaxation of the 7.8 psi fuel to the 9.0 psi RVP fuel. Georgia used the same approach as outlined in the June 2, 2017, EPA approval of the 2008 8-hour ozone redesignation to determine the portion of the safety margin allocated to the MVEBs for this SIP revision. The on-road emissions inventory and safety margin allocation for the year 2030 were updated but the MVEB totals themselves remain unchanged. *See* Table 10 below. As a result, EPA is proposing to approve the updated MVEBs.

**Table 10- Updated MVEBs for the Atlanta maintenance Area (tpd)**

	2014		2030 <sup>21</sup>	
	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC
<b>On-Road Emissions</b>	<b>170.15</b>	<b>81.76</b>	<b>39.63</b>	<b>36.01</b>
<b>Safety Margin Allocation</b>	---	----	<b>18.37</b>	<b>15.99</b>
<b>MVEBs with Safety Margin</b>	<b>170.15</b>	<b>81.76</b>	<b>58</b>	<b>52</b>

**VI. Proposed Action**

EPA is proposing to approve Georgia’s August 15, 2018, SIP revision to the 2008 8-hour ozone standard maintenance plan and corresponding noninterference demonstration. This SIP revision includes an update to the mobile emissions inventory (on-road and nonroad), the associated 2030 MVEBs, and the measures to offset the emissions increases due to a relaxation of the 7.8 psi RVP requirement. All would support revisions to the maintenance plan that

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<sup>21</sup> The 2014 on-road emissions and MVEBs in this chart are shown for illustration purposes because no changes were made to the 2014 attainment year emissions inventory due to the relaxation.

Georgia will rely on for the relaxation of the federal RVP requirement from 7.8 psi to 9.0 in the Atlanta fuel volatility Area. EPA is proposing to find that a relaxation in the RVP requirements for the Atlanta fuel volatility Area will not interfere with attainment or maintenance of any NAAQS or with any other applicable requirement of the CAA.

EPA has preliminarily determined that Georgia's August 15, 2018, SIP revision is consistent with the applicable provisions of the CAA, including section 110(l). Should EPA decide to relax the 7.8 psi federal RVP standard in the Atlanta fuel volatility Area, such action will occur in a separate and subsequent rulemaking.

## **VII. Statutory and Executive Order Reviews**

Under the CAA, 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 they meet the criteria of the CAA. This action merely proposes to approve changes to Georgia's maintenance plan emissions inventory, the safety margins and safety margin allocations, the associated MVEBs, and the measures used to offset the emissions increases due to relaxing the federal RVP requirements. For that reason, this proposed action:

- Is not a significant regulatory action 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);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted under Executive Order 12866.

- 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, August 10, 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).

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.

**List of Subjects in 40 CFR Part 52**

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

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

Dated: December 21, 2018.

Mary S. Walker

Acting Regional Administrator,

Region 4.

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