



**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 52**

**[EPA-R04-OAR-2013-0799; FRL-9953-17-Region 4]**

**Air Plan Approval; Tennessee; Regional Haze Progress Report**

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

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to approve a State Implementation Plan (SIP) revision submitted by the State of Tennessee through the Tennessee Department of Environment and Conservation (TDEC) on April 19, 2013. Tennessee's April 19, 2013, SIP revision (Progress Report) addresses requirements of the Clean Air Act (CAA or Act) and EPA's rules that require each state to submit periodic reports describing progress towards reasonable progress goals (RPGs) established for regional haze and a determination of the adequacy of the state's existing SIP addressing regional haze (regional haze plan). EPA is proposing to approve Tennessee's Progress Report on the basis that it addresses the progress report and adequacy determination requirements for the first implementation period for regional haze.

**DATES:** Comments must be received on or before [insert 30 days from the date of publication in the Federal Register].

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R04-OAR-2013-0799 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>.

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**SUPPLEMENTARY INFORMATION:**

## I. Background

Under the Regional Haze Rule,<sup>1</sup> each state was required to submit its first implementation plan addressing regional haze visibility impairment to EPA no later than December 17, 2007. *See* 40 CFR 51.308(b). Tennessee submitted its regional haze plan on April 4, 2008, and like many other states subject to the Clean Air Interstate Rule (CAIR), relied on CAIR to satisfy best available retrofit technology (BART) requirements for emissions of sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) from electric generating units (EGUs) in the State. On April 24, 2012, EPA finalized a limited approval of Tennessee's April 4, 2008, regional haze plan as meeting some of the applicable regional haze requirements as set forth in sections 169A and 169B of the CAA and in 40 CFR 51.300-308.<sup>2</sup> Also in this April 24, 2012, action, EPA finalized a limited disapproval of Tennessee's regional haze plan because of deficiencies arising from the State's reliance on CAIR to satisfy certain regional haze requirements. *See* 77 FR 24392. On June 7, 2012, EPA promulgated Federal Implementation Plans (FIPs) to replace reliance on CAIR with reliance on the Cross State Air Pollution Rule (CSAPR) to address deficiencies in CAIR-

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<sup>1</sup> Located in 40 CFR part 51, subpart P.

<sup>2</sup> This April 24, 2012, action did not include the BART determination for Eastman Chemical Company (Eastman). On November 27, 2012, EPA finalized approval of the BART requirements for Eastman that were provided in the April 4, 2008, regional haze SIP, as later modified and supplemented on May 14, 2012, and May 25, 2012 (77 FR 70689).

dependent regional haze plans of several states, including Tennessee's regional haze plan.<sup>3</sup> See 77 FR 33642.

Each state is also required to submit a progress report in the form of a SIP revision every five years that evaluates progress towards the RPGs for each mandatory Class I Federal area within the state and for each mandatory Class I Federal area outside the state which may be affected by emissions from within the state. See 40 CFR 51.308(g). Each state is also required to submit, at the same time as the progress report, a determination of the adequacy of its existing regional haze plan. See 40 CFR 51.308(h). The first progress report is due five years after submittal of the initial regional haze plan.

On April 19, 2013, as required by 40 CFR 51.308(g), TDEC submitted to EPA, in the form of a revision to Tennessee's SIP, a report on progress made towards the RPGs for Class I areas in the State and for Class I areas outside the State that are affected by emissions from sources within the State. This submission also includes a negative declaration pursuant to 40 CFR 51.308(h)(1) that the State's regional haze plan is sufficient in meeting the requirements of the Regional Haze Rule. EPA is proposing to approve Tennessee's Progress Report on the basis that it satisfies the requirements of 40 CFR 51.308(g) and 51.308(h).

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<sup>3</sup> Although a number of parties challenged the legality of CSAPR and the D.C. Circuit initially vacated and remanded CSAPR to EPA in *EME Homer City Generation, L.P. v. EPA*, 696 F.3d 7 (D.C. Cir. 2012), the United States Supreme Court reversed the D.C. Circuit's decision on April 29, 2014, and remanded the case to the D.C. Circuit to resolve remaining issues in accordance with the high court's ruling. *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584 (2014). On remand, the D.C. Circuit affirmed CSAPR in most respects, and CSAPR is now in effect. *EME Homer City Generation, L.P. v. EPA*, 795 F.3d 118 (D.C. Cir. 2015).

## **II. Requirements for the Regional Haze Progress Report and Adequacy Determination**

### **A. Regional Haze Progress Report**

Under 40 CFR 51.308(g), states must submit a regional haze progress report as a SIP revision every five years and must address, at a minimum, the seven elements found in 40 CFR 51.308(g). As described in further detail in section III below, 40 CFR 51.308(g) requires: (1) a description of the status of measures in the approved regional haze plan; (2) a summary of emissions reductions achieved; (3) an assessment of visibility conditions for each Class I area in the state; (4) an analysis of changes in emissions from sources and activities within the state; (5) an assessment of any significant changes in anthropogenic emissions within or outside the state that have limited or impeded progress in Class I areas impacted by the state's sources; (6) an assessment of the sufficiency of the approved regional haze plan; and (7) a review of the state's visibility monitoring strategy.

### **B. Adequacy Determination of the Current Regional Haze Plan**

Under 40 CFR 51.308(h), states are required to submit, at the same time as the progress report, a determination of the adequacy of their existing regional haze plan and to take one of four possible actions based on information in the progress report. As described in further detail in section III below, 40 CFR 51.308(h) requires states to: (1) submit a negative declaration to

EPA that no further substantive revision to the state's existing regional haze plan is needed; (2) provide notification to EPA (and to other state(s) that participated in the regional planning process) if the state determines that its existing regional haze plan is or may be inadequate to ensure reasonable progress at one or more Class I areas due to emissions from sources in other state(s) that participated in the regional planning process, and collaborate with these other state(s) to develop additional strategies to address deficiencies; (3) provide notification with supporting information to EPA if the state determines that its existing regional haze plan is or may be inadequate to ensure reasonable progress at one or more Class I areas due to emissions from sources in another country; or (4) revise its regional haze plan to address deficiencies within one year if the state determines that its existing regional haze plan is or may be inadequate to ensure reasonable progress in one or more Class I areas due to emissions from sources within the state.

### **III. What is EPA's Analysis of Tennessee's Regional Haze Progress Report and Adequacy Determination?**

On April 19, 2013, TDEC submitted a revision to Tennessee's regional haze plan to address progress made towards the RPGs for Class I areas in the State and for Class I areas outside the State that are affected by emissions from sources within Tennessee. This submittal also includes a determination of the adequacy of the State's existing regional haze plan.

Tennessee has two Class I areas within its borders: Great Smoky Mountains National Park and

Joyce Kilmer-Slickrock Wilderness Area. These areas are located partially in North Carolina and Tennessee. In its regional haze plan, the State also identified, through an area of influence modeling analysis based on back trajectories, four Class I areas in three neighboring states potentially impacted by Tennessee sources: Cohutta Wilderness Area in Georgia; Mammoth Cave National Park in Kentucky; and Linville Gorge and Shining Rock Wilderness areas in North Carolina. *See* 76 FR 33662, 33683 (June 9, 2011).

**A. Regional Haze Progress Report SIPs**

The following sections summarize: (1) each of the seven elements that must be addressed by a progress report under 40 CFR 51.308(g); (2) how Tennessee's Progress Report addressed each element; and (3) EPA's analysis and proposed determination as to whether the State satisfied each element.

***1. Status of Control Measures:***

40 CFR 51.308(g)(1) requires a description of the status of implementation of all measures included in the regional haze plan for achieving RPGs for Class I areas both within and outside the state.

The State evaluated the status of measures included in its 2008 regional haze plan in accordance with 40 CFR 51.308(g)(1). Specifically, in its Progress Report, Tennessee

summarizes the status of the emissions reduction measures that were included in the final iteration of the Visibility Improvement State and Tribal Association of the Southeast (VISTAS) regional haze emissions inventory and RPG modeling used by the State in developing its regional haze plan. The measures include, among other things, applicable federal programs (e.g., mobile source rules, Maximum Achievable Control Technology standards), federal consent agreements, and federal and state control strategies for EGUs.

The State also discusses the status of several measures that were not included in the final VISTAS emissions inventory and were not relied upon in the initial regional haze plan to meet RPGs, including EPA's Mercury and Air Toxics Rule and a 2011 federal consent agreement with the Tennessee Valley Authority (TVA). The State notes that the emissions reductions from these measures will help ensure that Class I areas impacted by Tennessee sources achieve their RPGs.

Although Tennessee determined in its regional haze SIP that no additional controls for sources in the State were necessary to obtain reasonable progress during the first implementation period, Tennessee's Progress Report identifies six out-of-state sources located in the area of influence of one or more of Tennessee's Class I areas using the State's methodology for determining sources eligible for a reasonable progress control determination. These six sources were evaluated by their respective states for reasonable progress. The Progress Report summarizes the reasonable progress control determinations made for these six facilities (five facilities consisting of 12 EGUs, one non-EGU facility) in the surrounding States of Alabama, Georgia, North Carolina, and South Carolina and, where applicable, provides a status of the

required controls. Of the 12 EGUs at five facilities in these states, nine EGUs already have scrubbers installed and three EGUs located in South Carolina were retired.<sup>4</sup>

In addition, the State provides an update on the status of EGUs in Tennessee identified by the states of Maine, New Jersey, New Hampshire and Vermont as contributing to visibility impairment at the following Class I areas located in those states based on 2002 emissions: Acadia National Park (ME), Great Gulf Wilderness Area and Presidential Range – Dry River Wilderness Area (NH), Lye Brook Wilderness Area (VT), and Brigantine Wilderness Area (NJ)). These states are members of the Mid-Atlantic/Northeast Visibility Union (MANE-VU), which identified 167 EGU “stacks,” five of which are in Tennessee, as contributing significantly to visibility impairment at MANE-VU Class I areas in 2002. The five Tennessee EGU stacks identified by MANE-VU are located at TVA’s Gallatin, John Sevier, Johnsonville, and Kingston plants. MANE-VU asked Tennessee to control the SO<sub>2</sub> emissions from these EGUs with a 90 percent control efficiency and to adopt a control strategy to provide a 28 percent reduction in SO<sub>2</sub> emissions from non-EGU emission sources that would be equivalent to MANE-VU’s proposed low sulfur residential fuel oil strategy.

Tennessee summarizes in its Progress Report its February 20, 2008, response to the four MANE-VU states’ letters at the time of the State’s regional haze SIP development, indicating

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<sup>4</sup> See Tennessee Progress Report narrative, Table 2-5, page 26.

that the control schedule for the five identified EGU stacks is reasonable and adequately limits the emissions of SO<sub>2</sub> for visibility impairment purposes. See Table 1 below.

**Table 1: Tennessee EGU Stacks Identified by MANE-VU States**

<b>Plant Name</b>	<b>Tennessee's February 20, 2008, Response</b>
TVA Gallatin	This plant uses low-sulfur fuel at an emission rate of 0.61 lbs SO <sub>2</sub> /mmBtu
TVA John Sevier	TVA has announced plans to install flue gas desulfurization (FGD) by 2012
TVA Johnsonville	This plant is burning a low-sulfur fuel (1.5 lbs SO <sub>2</sub> /mmBtu) with TVA performing testing to determine the viability of lower sulfur coal with the objective of going to 0.9 lbs SO <sub>2</sub> /mmBtu before 2015
TVA Kingston	FGD is being installed on this stack with a construction complete date scheduled for 2010
TVA Kingston	FGD is being installed on this stack with a construction complete date scheduled for 2010

As part of its Progress Report, Tennessee notes that these EGU stacks are either currently controlled with low sulfur coal or scrubbers with a 95 percent SO<sub>2</sub> control efficiency, are shutdown, or are scheduled for shutdown by 2017.<sup>5</sup> Tennessee notes that the requested EGU SO<sub>2</sub> reductions are exceeded through improved removal efficiencies at these five EGUs, the shutdown of eight EGUs at the four TVA plants as of 2015, and the scheduled shutdown of an additional EGU by 2017, noting that additional reductions are expected for the remainder of the planning period. Tennessee also affirms that its Progress Report shows progress with reducing non-EGU SO<sub>2</sub> emissions.

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<sup>5</sup> See Table 2-4 on pages 22-24 of Tennessee's Progress Report.

EPA proposes to find that Tennessee's analysis adequately addresses 40 CFR 51.308(g)(1) for the reasons discussed below. The State documents the implementation status of measures from its regional haze plan in addition to describing additional measures not originally accounted for in the final VISTAS emissions inventory that came into effect since the VISTAS analyses for the regional haze plan were completed. Tennessee reviewed the status of BART requirements for the four BART-subject sources in the State: Alcoa - South Plant, DuPont - Old Hickory, Eastman Chemical Company, and TVA - Cumberland Fossil Plant. The State's Progress Report also provides detailed information on EGU control strategies in its regional haze plan and the status of existing and future expected controls for Tennessee's EGUs because, in its regional haze plan, Tennessee identified SO<sub>2</sub> emissions from coal-fired EGUs as the key contributor to regional haze in the VISTAS region. In its regional haze plan, Tennessee determined that no additional controls of sources in the State were reasonable for the first implementation period. Additionally, the State summarizes the emissions controls included in the regional haze plan for Tennessee sources in the area of influence of other states' Class I areas and the status of these controls.

**2. *Emissions Reductions and Progress:***

40 CFR 51.308(g)(2) requires a summary of the emissions reductions achieved in the state through the measures subject to 40 CFR 51.308(g)(1).

In its regional haze plan and Progress Report, Tennessee focuses its assessment on SO<sub>2</sub> emissions from EGUs because of VISTAS' findings that ammonium sulfate accounted for more than 70 percent of the visibility-impairing pollution in the VISTAS states<sup>6</sup> and that SO<sub>2</sub> point source emissions are projected to represent more than 95 percent of the total SO<sub>2</sub> emissions in the VISTAS states in 2018.<sup>7</sup> As discussed in section III.A.5, below, Tennessee determined that sulfates continue to be the largest contributor to regional haze for Class I areas in the State.

In its Progress Report, Tennessee presents SO<sub>2</sub> emissions data for 33 EGUs at seven facilities in the State that were projected to have controls installed, or projected to retire, by 2018 in Tennessee's regional haze SIP. Actual SO<sub>2</sub> emissions reductions from 2002 to 2011 for these Tennessee EGUs (199,568 tons per year (tpy)) are already close to the projected SO<sub>2</sub> emissions reductions from 2002 to 2018 estimated in Tennessee's regional haze plan for these EGUs (207,540 tpy).<sup>8</sup> Tennessee also includes SO<sub>2</sub> and NO<sub>x</sub> emissions data from 2002-2010 for EGUs in Tennessee subject to reporting under the Acid Rain Program. This data shows a decline in these emissions over this time period and that the SO<sub>2</sub> reductions are higher than those estimated for these units in the State's regional haze SIP between 2002-2018.

EPA proposes to conclude that Tennessee has adequately addressed 40 CFR 51.308(g)(2). As discussed above, the State provides estimates, and where available, actual

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<sup>6</sup> Sulfate levels on the 20 percent worst days account for 60-70 percent of the visibility impairment at both of Tennessee's Class I areas. For additional information, see Tennessee's April 4, 2008, regional haze plan at page 13.

<sup>7</sup> For additional information, see Tennessee's April 4, 2008, regional haze plan at page 81.

<sup>8</sup> Table 2-4, page 31, and Appendix A of Tennessee's Progress Report.

emissions reductions of SO<sub>2</sub> and NO<sub>x</sub> at EGUs in the State resulting from the measures relied upon in its regional haze plan. The State appropriately focused on SO<sub>2</sub> emissions from its EGUs in its Progress Report because the State had previously identified these emissions as the most significant contributors to visibility impairment at Tennessee's Class I areas and those areas that Tennessee sources impact.

**3. *Visibility Progress:***

40 CFR 51.308(g)(3) requires that states with Class I areas provide the following information for the most impaired and least impaired days for each area, with values expressed in terms of five-year averages of these annual values:<sup>9</sup> (i) current visibility conditions; (ii) the difference between current visibility conditions and baseline visibility conditions; and (iii) the change in visibility impairment over the past five years.

Tennessee provides figures with visibility monitoring data that address the three requirements of 40 CFR 51.308(g)(3) for the State's two Class I areas. Tennessee reported current conditions as the 2006-2010 five-year time period and used the 2000-2004 baseline period for its Class I areas.<sup>10</sup> Table 2, below, shows the current visibility conditions and the

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<sup>9</sup> The "most impaired days" and "least impaired days" in the regional haze rule refers to the average visibility impairment (measured in deciviews) for the 20 percent of monitored days in a calendar year with the highest and lowest amount of visibility impairment, respectively, averaged over a five-year period. 40 CFR 51.301.

<sup>10</sup> For the first regional haze plans, "baseline" conditions were represented by the 2000-2004 time period. *See* 64 FR 35730 (July 1, 1999). Joyce Kilmer-Slickrock Wilderness Area does not have a visibility monitor; therefore,

difference between current visibility conditions and baseline visibility conditions. Table 3 shows the changes in visibility from 2006-2010 in terms of five-year averages.

**Table 2: Baseline Visibility, Current Visibility, and Visibility Changes in Class I Areas in Tennessee**

<b>Class I Area</b>	<b>Baseline (2000 – 2004)</b>	<b>Current (2006 – 2010)</b>	<b>Difference</b>	<b>RPG (2018)</b>
<b><i>20% Worst Days</i></b>				
Great Smoky Mountains National Park	30.3	26.6	-3.7	23.5
Joyce Kilmer-Slickrock	30.3	26.6	-3.7	23.5
<b><i>20% Best Days</i></b>				
Great Smoky Mountains National Park	13.6	12.3	-1.3	12.1
Joyce Kilmer-Slickrock	13.6	12.3	-1.3	12.1

**Table 3: Changes in 5-year Visibility Averages from 2006-2010**

<b>Class I Area</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b><i>20% Worst Days</i></b>					
Great Smoky Mountains National Park	30.4	30.6	29.8	28.5	26.6

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visibility data from Great Smoky Mountains National Park is used for both areas given their proximity. For more information see 76 FR 33669.

Joyce Kilmer-Slickrock	30.4	30.6	29.8	28.5	26.6
<b>20% Best Days</b>					
Great Smoky Mountains National Park	13.3	13.2	13.1	12.4	12.3
Joyce Kilmer-Slickrock	13.3	13.2	13.1	12.4	12.3

All Tennessee Class I areas saw an improvement in visibility between baseline and 2006-2010 conditions and an overall decline in the five-year average visibility averages from 2006-2010.

EPA proposes to conclude that Tennessee has adequately addressed 40 CFR 51.308(g)(3) because the State provides the information regarding visibility conditions and visibility changes necessary to meet the requirements of the regulation. The Progress Report includes current conditions based on the Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring data for the years 2006-2010, the difference between current visibility conditions and baseline visibility conditions, and the change in visibility impairment over the five-year period 2006-2010.

**4. Emissions Tracking:**

40 CFR 51.308(g)(4) requires an analysis tracking emission changes of visibility-impairing pollutants from the state's sources by type or category over the past five years based on the most recent updated emissions inventory.

In its Progress Report, Tennessee presents data from a statewide actual emissions inventory for 2008 and compares this data to the baseline emissions inventory for 2002 (actual and typical emissions) from its regional haze plan. For the typical 2002 stationary point source emissions inventory, Tennessee adjusted the EGU emissions for a typical year so that if sources were shut down or operating above or below normal, the emissions are normalized to a typical emissions inventory year. The typical year data is used to develop projected typical future year emissions inventories. The pollutants inventoried include volatile organic compounds (VOC), ammonia (NH<sub>3</sub>) NO<sub>x</sub>, coarse particulate matter (PM<sub>10</sub>), fine particulate matter (PM<sub>2.5</sub>), and SO<sub>2</sub>. The emissions inventories include the following source classifications: point, area, biogenics, non-road mobile, and on-road mobile sources.

Tennessee includes the actual and typical emissions inventories from its regional haze plan for 2002, and summarizes emissions data from EPA's 2008 National Emissions Inventory (NEI).<sup>11</sup> Tennessee's analysis shows that 2008 emissions are lower than both the actual and typical 2002 emissions.

Tennessee estimated on-road mobile source emissions in the 2008 inventory using the MOVES model. This model tends to estimate higher emissions for NO<sub>x</sub> and PM than its previous counterpart, the MOBILE6.2 model, used by the State to estimate on-road mobile source emissions for the 2002 inventories. Despite the change in methodology, a declining trend in all pollutants can be seen between 2002 and 2008 when comparing Tables 4 and 5 to Table 6.

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<sup>11</sup> The 2008 NEI data was the most recent NEI data available at the time that Tennessee submitted its Progress Report.

**Table 4: 2002 Actual Emissions Inventory Summary for Tennessee (tpy)**

<b>Source Category</b>	<b>VOC</b>	<b>NOx</b>	<b>PM<sub>2.5</sub></b>	<b>PM<sub>10</sub></b>	<b>NH<sub>3</sub></b>	<b>SO<sub>2</sub></b>
<b>Point</b>	85,254	221,651	39,973	49,814	1,817	413,755
<b>Area</b>	153,509	17,936	42,925	212,972	34,412	29,942
<b>On-Road Mobile</b>	179,807	238,577	3,949	5,371	6,625	9,226
<b>Non-Road Mobile</b>	66,450	96,827	6,458	6,819	43	10,441
<b>Biogenics</b>	894,214	18,081	0	0	0	0
<b>TOTAL</b>	1,379,234	593,072	93,305	274,976	42,897	463,364

**Table 5: 2002 Typical Emissions Inventory Summary for Tennessee (tpy)**

<b>Source Category</b>	<b>VOC</b>	<b>NOx</b>	<b>PM<sub>2.5</sub></b>	<b>PM<sub>10</sub></b>	<b>NH<sub>3</sub></b>	<b>SO<sub>2</sub></b>
<b>Point</b>	85,218	216,481	39,298	49,040	1,810	399,750
<b>Area</b>	153,783	18,061	43,410	213,538	34,439	29,977
<b>On-Road Mobile</b>	179,807	238,577	3,949	5,371	6,625	9,226
<b>Non-Road Mobile</b>	66,450	96,827	6,458	6,819	43	10,441
<b>Biogenics</b>	894,214	18,081	0	0	0	0
<b>TOTAL</b>	1,379,472	588,027	93,115	274,768	42,917	449,394

**Table 6: 2008 Actual Emissions Inventory Summary for Tennessee (tpy)**

<b>Source Category</b>	<b>VOC</b>	<b>NOx</b>	<b>PM<sub>2.5</sub></b>	<b>PM<sub>10</sub></b>	<b>NH<sub>3</sub></b>	<b>SO<sub>2</sub></b>
<b>Point</b>	38,155	134,162	15,551	20,734	1,193	258,033
<b>Area</b>	104,305	43,388	46,672	194,631	34,898	65,026
<b>On-Road</b>	80,476	213,973	8,441	10,445	3,167	3,903

<b>Mobile</b>						
<b>Non-Road Mobile</b>	50,525	35,593	3,305	3,470	38	591
<b>Biogenics</b>	786,087	13,682	0	0	0	0
<b>TOTAL</b>	1,059,548	440,798	73,969	229,280	39,296	327,553

EPA proposes to conclude that Tennessee has adequately addressed 40 CFR 51.308(g)(4). Tennessee tracked changes in emissions of visibility-impairing pollutants from 2002-2008 for all source categories and analyzed trends in emissions from 2002-2008, the most current quality-assured data available for these units at the time of progress report development. While ideally the five-year period to be analyzed for emissions inventory changes is the time period since the current regional haze plan was submitted, there is an inevitable time lag in developing and reporting complete emissions inventories once quality-assured emissions data becomes available. Therefore, EPA believes that there is some flexibility in the five-year time period that states can select.

**5. *Assessment of Changes Impeding Visibility Progress:***

40 CFR 51.308(g)(5) requires an assessment of any significant changes in anthropogenic emissions within or outside the state that have occurred over the past five years that have limited or impeded progress in reducing pollutant emissions and improving visibility in Class I areas impacted by the state's sources.

In its Progress Report, Tennessee documented that sulfates, which are formed from SO<sub>2</sub> emissions, continue to be the biggest single contributor to regional haze for Class I areas in the

State and therefore focused its analysis on large SO<sub>2</sub> emissions from point sources. In addressing the requirements at 40 CFR 51.308(g)(5), Tennessee demonstrates that sulfate contributions to visibility impairment have decreased from 2006 to 2010 along with an improvement in visibility at Class I areas in Tennessee, and examines other potential pollutants of concern affecting visibility at these areas. The State presents data for the 20 percent worst days showing that ammonium sulfate is responsible for 74 percent of the regional haze at Tennessee's two Class I areas for the period 2006-2010, with primary organic matter as the next largest contributor at 12 percent. The State notes that there are no significant changes in anthropogenic emissions that have impeded progress in reducing emissions and improving visibility in Class I areas impacted by Tennessee sources. Furthermore, the Progress Report shows that the State is on track to meeting its 2018 RPGs for Class I areas in Tennessee. For these reasons, EPA proposes to conclude that Tennessee's Progress Report has adequately addressed 40 CFR 51.308(g)(5).

**6. *Assessment of Current Strategy:***

40 CFR 51.308(g)(6) requires an assessment of whether the current regional haze plan is sufficient to enable the state, or other states, to meet the RPGs for Class I areas affected by emissions from the state.

The State believes that it is on track to meet the 2018 RPGs for the Tennessee Class I areas and will not impede Class I areas outside of Tennessee from meeting their RPGs based on

the trends in visibility and emissions presented in its Progress Report. In its Progress Report, Tennessee provided reconstructed light extinction figures for the 20 percent worst days for Great Smoky Mountains National Park for 2006 through 2010, noting similar results at Joyce Kilmer Class I area. The 20 percent worst days extinction clearly demonstrates that sulfates continue to be the largest contributor to visibility impairment at these Class I areas, with stationary point sources being the largest source of SO<sub>2</sub> emissions in Tennessee. As identified in Tables 3-1 and 3-2 and Appendix A of the Progress Report, SO<sub>2</sub> emissions from EGUs in Tennessee have decreased from 2002 to 2011. Also, the emissions data provided in Table 3-1 of the Progress Report show a declining trend in NO<sub>x</sub> emissions from 2002 to 2010 for EGUs in Tennessee. Tennessee also provides visibility data for the State's two Class I areas (Great Smoky Mountains National Park and Joyce Kilmer-Slickrock Wilderness Area) and the Class I areas potentially impacted by the State's sources (Cohutta Wilderness Area (Cohutta) in Georgia, Mammoth Cave National Park (Mammoth Cave) in Kentucky, and Linville Gorge and Shining Rock Wilderness Areas in North Carolina)) and notes that this data shows that these areas are on track to achieve their RPGs by 2018.<sup>12</sup>

EPA proposes to conclude that Tennessee has adequately addressed 40 CFR 51.308(g)(6). EPA views this requirement as a qualitative assessment that should evaluate emissions and visibility trends and other readily available information, including expected emissions reductions associated with measures with compliance dates that have not yet become

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<sup>12</sup> See pages 35-37 and 48-55 of Tennessee's Progress Report.

effective. In its assessment, the State references the improving visibility trends and the downward emissions trends in the State, with a focus on SO<sub>2</sub> emissions from Tennessee EGUs. These trends support the State's determination that the State's regional haze plan is sufficient to meet RPGs for Class I areas within and outside the State impacted by Tennessee sources.

**7. *Review of Current Monitoring Strategy:***

40 CFR 51.308(g)(7) requires a review of the state's visibility monitoring strategy and an assessment of whether any modifications to the monitoring strategy are necessary.

Tennessee's Progress Report summarizes the existing monitoring network in the State to monitor visibility in Tennessee's Class I areas and concludes that no modifications to the existing visibility monitoring strategy are necessary. The primary monitoring network for regional haze, both nationwide and in Tennessee, is the IMPROVE network. There is currently one IMPROVE site in Tennessee which serves as the monitoring site for both the Great Smoky Mountains National Park and Joyce Kilmer-Slickrock Wilderness Area.

The State also explains the importance of the IMPROVE monitoring network for tracking visibility trends at Class I areas in Tennessee. Tennessee states that data produced by the IMPROVE monitoring network will be used nearly continuously for preparing the 5-year progress reports and the 10-year SIP revisions, each of which relies on analysis of the preceding five years of data, and thus, the State notes that the monitoring data from the IMPROVE sites

needs to be readily accessible and to be kept up to date. The Visibility Information Exchange Web System website has been maintained by VISTAS and the other Regional Planning Organizations to provide ready access to the IMPROVE data and data analysis tools.

In addition to the IMPROVE measurements, some ongoing long-term limited monitoring supported by Federal Land Managers provides additional insight into progress toward regional haze goals. Tennessee benefits from the data from these measurements, but is not responsible for associated funding decisions to maintain these measurements into the future.

In addition, TDEC and the local air agencies in the State operate a comprehensive PM<sub>2.5</sub> network of the filter-based federal reference method monitors, continuous mass monitors, and filter-based speciated monitors. These PM<sub>2.5</sub> measurements help the TDEC characterize air pollution levels in areas across the State, and therefore aid in the analysis of visibility improvement in and near the Class I areas in Tennessee.

EPA proposes to conclude that Tennessee has adequately addressed the sufficiency of its monitoring strategy as required by 40 CFR 51.308(g)(7). The State reaffirmed its continued reliance upon the IMPROVE monitoring network; assessed its entire visibility monitoring network, including additional continuous sulfate and PM<sub>2.5</sub> monitors, used to further understand visibility trends in the State; and determined that no changes to its monitoring strategy are necessary.

## **B. Determination of Adequacy of Existing Regional Haze Plan**

Under 40 CFR 51.308(h), states are required to take one of four possible actions based on the information gathered and conclusions made in the progress report. The following section summarizes: (1) the action taken by Tennessee under 40 CFR 51.308(h); (2) Tennessee's rationale for the selected action; and (3) EPA's analysis and proposed determination regarding the State's action.

In its Progress Report, Tennessee took the action provided for by 40 CFR 51.308(h)(1), which allows a state to submit a negative declaration to EPA if the state determines that the existing regional haze plan requires no further substantive revision at this time to achieve the RPGs for Class I areas affected by the state's sources. The basis for the State's negative declaration is the findings from the Progress Report, including the findings that: visibility has improved at Class I areas in Tennessee and at Class I areas impacted by sources in Tennessee; overall emissions of visibility-impairing pollutants from the State's sources have decreased from 2002 to 2008 by approximately 25 percent<sup>13</sup> and emissions of SO<sub>2</sub> from certain EGUs in Tennessee have decreased by approximately 200,000 tons from 2002-2010;<sup>14</sup> and additional EGU control measures not relied upon in the State's regional haze plan have occurred or will occur in the implementation period and are expected to continue to trend downward. EPA proposes to conclude that Tennessee has adequately addressed 40 CFR 51.308(h) because the

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<sup>13</sup> See page 42 of Tennessee's Progress Report.

<sup>14</sup> As discussed earlier, these EGUs were projected to have controls installed, or projected to retire, by 2018 in Tennessee's regional haze SIP.

visibility trends at the Class I areas impacted by the State's sources and the emissions trends of the State's largest emitters of visibility-impairing pollutants indicate that the RPGs for Class I areas impacted by source in Tennessee will be met.

#### **IV. What Action is EPA Proposing to Take?**

EPA is proposing to approve Tennessee's Regional Haze Progress Report SIP revision, submitted by the State on April 19, 2013, as meeting the applicable regional haze requirements set forth in 40 CFR 51.308(g) and 51.308(h).

#### **V. 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 that they meet the criteria of the CAA. Accordingly, this proposed action merely proposes to approve 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 Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);

- 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, Incorporation by reference, Intergovernmental relations, Nitrogen oxides, Particulate matter, Reporting and recordkeeping requirements, Sulfur dioxide, Volatile organic compounds.

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

Dated: September 15, 2016.

Kenneth R. Lapierre,

Acting Regional Administrator,

Region 4.

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