



## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[EPA-R04-OAR-2025-0023; FRL-12899-01-R4]

#### **Air Plan Approval; Kentucky; Emissions Inventory and Nonattainment New Source Review for the Henderson-Webster Sulfur Dioxide Nonattainment Area**

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

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to approve two State Implementation Plan (SIP) revisions submitted by the Commonwealth of Kentucky, through the Energy and Environment Cabinet (Cabinet), Division of Air Quality (DAQ) on January 26, 2024, and February 15, 2024, to certify two requirements under the Clean Air Act (CAA or Act).

These revisions establish that the Kentucky SIP satisfies the nonattainment new source review (NNSR) and base year emissions inventory requirements for the 2010 1-hour sulfur dioxide (SO<sub>2</sub>) national ambient air quality standard (NAAQS) for the Henderson-Webster SO<sub>2</sub> nonattainment area (hereinafter “Henderson-Webster SO<sub>2</sub> Nonattainment Area” or “Area”).

These actions are being proposed pursuant to 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-2025-0023 at [regulations.gov](https://www.regulations.gov). Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from [Regulations.gov](https://www.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 <https://www.epa.gov/dockets/commenting-epa-dockets>.

**FOR FURTHER INFORMATION CONTACT:** Pearlene Williams-Miles, Multi-Air Pollutant Coordination Section, Air Planning and Implementation Branch, Air and Radiation Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. The telephone number is (404) 562-9144. Ms. Williams-Miles can also be reached via electronic mail at [williamsmiles.pearlene@epa.gov](mailto:williamsmiles.pearlene@epa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. Background**

SO<sub>2</sub> is a gas that is formed by the burning of fossil fuels from power plants and other industrial facilities, such as extracting metal from ore; natural sources, such as volcanoes; and locomotives, ships, and other vehicles and heavy equipment that burn fuel with a high sulfur content. SO<sub>2</sub> is the component of greatest concern amongst sulfur oxides (SO<sub>x</sub>) and is used as the indicator for the larger group of gaseous SO<sub>x</sub>. Control measures that reduce SO<sub>2</sub> can generally be expected to reduce people's exposures to all gaseous SO<sub>x</sub>.

On June 2, 2010, EPA revised the primary SO<sub>2</sub> NAAQS. Specifically, EPA established a 1-hour SO<sub>2</sub> standard at a level of 75 parts per billion (ppb), based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations.<sup>1</sup> *See* 75 FR 35520 (June 22, 2010). The 1-hour standard is met at an ambient air quality monitoring site when the 3-year average of the annual 99th percentile of daily maximum 1-hour average concentrations does not exceed 75 ppb, as determined in accordance with appendix T of 40 CFR part 50. *See* 75 FR 35520, codified at 40 CFR 50.17(a) - (b).

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<sup>1</sup> This rule became effective on August 23, 2010, and revoked the 24-hour and annual primary SO<sub>2</sub> standards.

Upon promulgation of a new or revised SO<sub>2</sub> NAAQS, section 107(d) of the CAA requires EPA to designate as nonattainment any area that is violating the NAAQS (or that contributes to ambient air quality in a nearby area that is violating the NAAQS). As part of the designation process for the 2010 1-hour SO<sub>2</sub> NAAQS, the Henderson-Webster SO<sub>2</sub> Nonattainment Area was designated as a nonattainment area in the fourth round of designations on December 21, 2020.<sup>2, 3</sup> These area designations became effective on April 30, 2021. *See* 86 FR 16055 (March 26, 2021). States with nonattainment areas for the SO<sub>2</sub> NAAQS must provide nonattainment SIP revisions meeting the applicable requirements of CAA sections 110(a), 172, 191, and 192<sup>4</sup> for the SO<sub>2</sub> NAAQS. EPA’s regulations governing nonattainment SIPs are set forth at 40 CFR part 51, with specific procedural requirements and control strategy requirements residing at subparts F and G, respectively.

Section 172(c) directs states with nonattainment areas to submit a SIP that contains an attainment demonstration showing that the affected area will attain the relevant standard as expeditiously as practicable, but no later than the applicable statutory attainment date (April 30, 2026, for the Henderson-Webster SO<sub>2</sub> Nonattainment Area).<sup>5</sup> On April 23, 2014, EPA issued guidance for meeting the statutory requirements in SO<sub>2</sub> SIPs under the 2010 revised NAAQS in a document entitled “Guidance for 1-Hour SO<sub>2</sub> Nonattainment Area SIP Submissions”<sup>6</sup>

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<sup>2</sup> *See* Round 4 SO<sub>2</sub> Designations at <https://www.epa.gov/sulfur-dioxide-designations/epa-completes-fourth-round-sulfur-dioxide-designations>.

<sup>3</sup> The Henderson-Webster SO<sub>2</sub> Nonattainment Area is comprised of a portion of Henderson County and a portion of Webster County. EPA designated the Henderson-Webster SO<sub>2</sub> Nonattainment Area in 2020 based on a violating ambient air monitor – the Sebree data requirements rule (DRR) monitor (Air Quality System ID: 21-101-1011) – sited to characterize the maximum 1-hour SO<sub>2</sub> concentrations in the area. (The DRR may be found at 40 CFR 51.1205). The extent of the partial county Henderson-Webster SO<sub>2</sub> Nonattainment Area was defined based on air dispersion modeling during round 4 SO<sub>2</sub> designations in 2020. *See* 40 CFR 81.318.

<sup>4</sup> Section 191(a) of the CAA directs states to submit SIPs for areas designated as nonattainment for the SO<sub>2</sub> NAAQS to EPA within 18 months of the effective date of the designation. Under CAA section 192(a) these SIPs are required to demonstrate that their respective areas will attain the NAAQS as expeditiously as practicable, but no later than 5 years from the effective date of designation. In addition, sections 110(a) and 172(c), as well as EPA regulations at 40 CFR part 51, set forth substantive elements each SIP must contain to be approved by EPA.

<sup>5</sup> Soon after the 1990 amendments to the CAA were enacted by Congress, EPA issued comprehensive guidance on SIPs in a document entitled the “General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990,” published in the Federal Register at 57 FR 13498 (April 16, 1992) (General Preamble). Among other things, the General Preamble addressed SO<sub>2</sub> SIPs and fundamental principles for SIP control strategies. *Id.* at 13545–49, 13567–68.

<sup>6</sup> *See* [https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance\\_nonattainment\\_sip.pdf](https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf)

(hereinafter referred to as “2014 SO<sub>2</sub> Nonattainment Guidance”) which describes the statutory requirements for nonattainment at CAA section 172(c), including an accurate inventory of actual emissions from all sources in nonattainment areas; an attainment demonstration; a demonstration of reasonable further progress; implementation of Reasonably Available Control Measures (RACM) (including Reasonably Available Control Technologies (RACT)); NNSR; enforceable emissions limitations and control measures; and adequate contingency measures for the affected area. For EPA to fully approve a SIP revision as meeting the requirements of CAA sections 110, 172, and 191–192 and EPA’s regulations at 40 CFR part 51, the SIP for the affected area must demonstrate to EPA’s satisfaction that each of the requirements have been met. State air agencies with nonattainment areas for the 2010 1-hour primary SO<sub>2</sub> NAAQS are required to submit a SIP revision that addresses these requirements within 18 months after an area is designated nonattainment (no later than October 30, 2022, for the Henderson-Webster SO<sub>2</sub> Nonattainment Area).<sup>7</sup> Kentucky’s January 26, 2024, and February 15, 2024, SIP revisions address the air agency’s NNSR permitting and emissions inventory obligations pursuant to section 172(c)(5) and 172(c)(3) of the Act, respectively.

*A. Nonattainment New Source Review*

As mentioned above, based on the nonattainment designation for the Henderson-Webster SO<sub>2</sub> Nonattainment Area in 2020, Kentucky was required to develop a SIP revision addressing, among other requirements, NNSR permitting requirements pursuant to section 172(c)(5) of the CAA for the 2010 1-hour SO<sub>2</sub> NAAQS. Section 172(c)(5) of the CAA requires each state with a nonattainment area to submit a SIP revision requiring NNSR permits in the nonattainment area in accordance with the permitting requirements of CAA section 173. The NNSR requirements apply on a pollutant-specific basis with respect to each nonattainment pollutant for which a source has the potential to emit in amounts greater than the applicable major source threshold for

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<sup>7</sup> See CAA section 191(a).

the pollutant.<sup>8</sup> Kentucky's January 26, 2024, SIP revision addresses NNSR permitting requirements for the 2010 1-hour SO<sub>2</sub> NAAQS for the Henderson-Webster SO<sub>2</sub> Nonattainment Area. EPA's analysis of Kentucky's SIP revision regarding the NNSR requirements for the 1-hour SO<sub>2</sub> is provided in Section II.A, below.

*B. Emission Inventory*

On February 15, 2024, the Cabinet submitted a second SIP revision that addresses the base year emissions inventory requirements for the Henderson-Webster SO<sub>2</sub> Nonattainment Area at section 172(c)(3) of the CAA. Each state with a nonattainment area should develop a comprehensive, accurate, and current inventory of actual emissions from all sources of a relevant pollutant, or pollutants, such as SO<sub>2</sub>, in a nonattainment area as well as any sources located outside the nonattainment area which may affect attainment in the area.<sup>9</sup> This inventory should be consistent with the EPA's most recent emissions inventory data requirements as codified at 40 CFR part 51, Subpart A.<sup>10</sup> An emission inventory for SO<sub>2</sub> is an estimation of actual SO<sub>2</sub> emissions in an area.

Emission inventories provide emissions data that inform a variety of air quality planning tasks, including establishing baseline emission levels, calculating emission reduction triggers necessary to attain the NAAQS, determining emission inputs for SO<sub>2</sub> air quality modeling analyses, and tracking emissions over time to determine progress toward achieving air quality and emission reduction goals. Pursuant to the CAA, states are required to submit estimates of SO<sub>2</sub> emissions for four general classes of anthropogenic sources: individual stationary sources such as electrical generating units or industrial facilities (point sources); smaller stationary sources such as small scale industrial sources, collectively referred to as area (non-point)

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<sup>8</sup> For new sources in areas that are designated nonattainment for the 2010 SO<sub>2</sub> NAAQS, the major source threshold is 100 tpy or more of SO<sub>2</sub>. See 40 CFR 51.165(a)(1)(iv)(A)(1). Similarly, NNSR requirements for SO<sub>2</sub> also apply to any existing major stationary source of SO<sub>2</sub> that proposes a major modification, i.e., a physical change or change in the method of operation that results in a significant net emissions increase (40 tons per year (tpy) or more) of SO<sub>2</sub>. See 40 CFR 51.165(a)(1)(x)(A).

<sup>9</sup> See CAA section 172(c)(3); 2014 SO<sub>2</sub> Nonattainment Guidance at 7-8.

<sup>10</sup> The air emissions reporting requirements at 40 CFR part 51, subpart A sets out how states are to report their emission inventories to EPA. See 2014 SO<sub>2</sub> Nonattainment Guidance at 8.

sources; on-road mobile sources (on-road), including automobiles, truck, motorcycles, and the like; and off-road mobile sources (non-road), including agricultural equipment, aircrafts, locomotives, and the like. Kentucky's February 15, 2024, SIP revision provides the required accounting of actual SO<sub>2</sub> emissions for the Henderson-Webster SO<sub>2</sub> Nonattainment Area. EPA's analysis of Kentucky's SIP SO<sub>2</sub> emissions inventory is discussed in Section II.B, below.

## **II. EPA's Analysis of the Commonwealth's Submittal**

### *A. NNSR Requirements*

Kentucky's SIP-approved NNSR regulation at 401 Kentucky Administrative Regulation (KAR) 51.052, *Review of new sources in or impacting upon nonattainment areas* (401 KAR 51:052), establishes air quality permitting requirements for the construction or modification of major stationary sources located within, or impacting, areas designated as nonattainment. In its January 26, 2024, SIP revision, Kentucky certifies that the version of 401 KAR 51:052 in the SIP satisfies the federal NNSR requirements for the Henderson-Webster SO<sub>2</sub> Nonattainment Area at CAA sections 172(c)(5) and 173 and 40 CFR 51.165, and thus, a modification to the Commonwealth's SIP-approved regulations at 401 KAR 51:052 is not necessary.

The SIP-approved version of 401 KAR 51:052 addresses the NNSR permitting requirements for the Henderson-Webster SO<sub>2</sub> Nonattainment Area and remains adequate to meet all applicable NNSR requirements for the 2010 1-hour SO<sub>2</sub> NAAQS. EPA is therefore proposing to approve Kentucky's certification that 401 KAR 51:052 meets the NNSR requirements for implementation of the 2010 1-hour SO<sub>2</sub> NAAQS.

### *B. Emissions Inventory*

Section 172(c)(3) of the CAA provides that nonattainment SIPs include a comprehensive, accurate, and current inventory of actual emissions from all sources of SO<sub>2</sub> emissions in each

nonattainment area. The emissions inventory and source emission rate data for an area serve as the foundation for air quality modeling and other analyses that enable states to: (1) estimate the degree to which different sources within a nonattainment area contribute to violations within the affected area; and (2) assess the expected improvement in air quality within the nonattainment area due to the adoption and implementation of control measures.<sup>11</sup>

According to the DAQ, at the time of SO<sub>2</sub> designations, the Henderson-Webster SO<sub>2</sub> Nonattainment Area included the following major stationary sources: Century Aluminum Sebree LLC (Century Aluminum) in Henderson County, Big Rivers Electric Corporation (BREC) Robert A. Reid Station and Henderson Municipal Power and Light (HMP&L) Station 2 (Reid/HMP&L), and BREC Robert D. Green Station (BREC-Green Station). The Cabinet's base year emissions inventory evaluated years 2017 and 2018, which are two of the three years in the three-year design value used to designate the Henderson-Webster SO<sub>2</sub> Area as nonattainment for the 2010 1-hour SO<sub>2</sub> standard. The Cabinet chose to use 2017 SO<sub>2</sub> actual emissions data from the National Emissions Inventory (NEI) to represent the base year emission levels within the Henderson-Webster SO<sub>2</sub> Nonattainment Area for non-point and non-road source categories. Kentucky states that on-road emissions for 2017 were developed from EPA's Motor Vehicle Emissions Simulator (MOVES3.0.4) software program. For point sources, Kentucky used 2018 SO<sub>2</sub> actual emissions from the Commonwealth's inventory, KYEIS, to represent the base year emission levels.<sup>12</sup>

Only a portion of the land area of each county is included in the Henderson-Webster SO<sub>2</sub> Nonattainment Area. Kentucky determined nonattainment area partial county emissions (for on-road, non-road) by apportioning a ratio of the whole and partial county population using the 2010

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<sup>11</sup> See EPA's 2014 SO<sub>2</sub> Nonattainment Guidance at 7-8.

<sup>12</sup> The Cabinet relied on their 2018 KYEIS for point source emissions data instead of the 2017 point source NEI data because at the time, the Commonwealth's emission data set was more recent than the 2017 NEI point source data. The Cabinet chose not to use 2019 KYEIS point source data due to the operational changes that occurred at the BREC Henderson Municipal Power and Light facilities in 2019. These operational changes led to emissions reductions in the Area, making 2019 unrepresentative of the base year emissions for point sources. See Section 1.a.(ii) of the February 15, 2024, SIP revision.

U.S. Census data to each relevant emission source category.<sup>13</sup> DAQ estimated partial county population using census blocks data within the respective partial county boundary. Then DAQ multiplied the whole and partial county population to obtain an area population ratio that was then multiplied by the Henderson and Webster County emissions data to obtain the partial county emissions data for non-road, on-road and non-point source categories (i.e., eight percent for Henderson County and 25 percent for Webster County). *See Appendix A of Kentucky’s February 15, 2024, SIP revision.* Because the point sources are located completely within the nonattainment area, DAQ did not apportion the population ratio to this category. Table 1 below summarizes the level of SO<sub>2</sub> emissions, expressed in tpy for 2017 and 2018 base year in the Henderson-Webster SO<sub>2</sub> Nonattainment Area by emission source type. Table 1 also includes total county emissions for Henderson and Webster County for context. Additional discussion for each emission source category is provided below.

**Table 1 - Base Year SO<sub>2</sub> Emissions Inventory for the Henderson-Webster SO<sub>2</sub> Nonattainment Area (tpy)**

	<b>Point</b>	<b>Non-point</b>	<b>On-road</b>	<b>Non-road</b>
<b>Henderson County</b>				
<b>Total County Emissions</b>	4240.18 <sup>14</sup>	14.13	0.14	0.40
<b>Area percent adjustment (eight percent)</b>	N/A*	1.13	0.01	0.03
<b>Nonattainment Area Emissions</b>	4240.18	1.13	0.01	0.03
<b>Webster County</b>				

<sup>13</sup> Kentucky chose the 2010 census year because at the time the emissions inventory was developed it was the most recent and complete census database prior to the 2018 base year. Additionally, Kentucky acknowledged there were no census tract population data for the 2020 census at the time the emissions inventory was developed.

<sup>14</sup> EPA notes an emissions data discrepancy between Kentucky’s EIS 2018 point source emissions (4240.18 tons) and EPA’s 2018 NEI emissions (4629.79 tons). According to DAQ, the difference between the two databases was due to a reporting error. Because EPA uses data provided by states to reflect data in the NEI database the Kentucky’s EIS 2018 would provide the most current data available. For more information, please see the copy of the August 15, 2025, letter from DAQ included in the docket.

<b>Total County Emissions</b>	4962.91	6.43	0.05	0.16
<b>Area percent adjustment (25 percent)</b>	N/A*	1.61	0.01	0.04
<b>Nonattainment Area Emissions</b>	4962.91	1.61	0.01	0.04
<b>Total Nonattainment Area Emissions for Webster and Henderson County<sup>+</sup></b>	<b>9203.09</b>	<b>2.74</b>	<b>0.02</b>	<b>0.07</b>

\* All point sources are located within the Henderson-Webster SO<sub>2</sub> Nonattainment Area, so the area percent adjustment does not apply.

<sup>+</sup> Point source data: 2018 KYEIS; Nonpoint, Onroad and Nonroad data: 2017 NEI. Please see Table 15 in the February 15, 2024, SIP revision.

### C. Point Sources

The primary SO<sub>2</sub> emitting stationary sources in the Henderson-Webster SO<sub>2</sub> Nonattainment Area at the time of the nonattainment designation were the Century Aluminum facility in Henderson County and the BREC Green and Reid/HMP&L power plants in Webster County, according to the February 15, 2024, SIP revision. BREC owns all the electric generating units at BREC Reid/HMP&L Station 2 and BREC Green Station. Kentucky obtained 2018 actual SO<sub>2</sub> emissions data for these stationary sources from the Commonwealth's emissions inventory database, KYEIS. Partial county emissions were not needed for the point source emission category because the power plants and industrial sources are located within the Henderson-Webster SO<sub>2</sub> Nonattainment Area boundary.

- Century Aluminum is an aluminum producing facility that at the time of the nonattainment designation consisted of four primary SO<sub>2</sub> emission units: three

primary aluminum potlines and one anode bake furnace (ABF).<sup>15</sup> Century Aluminum’s title V permit provides a potential to emit of 5,853 tons SO<sub>2</sub> per year. According to the Cabinet, 46 percent of all SO<sub>2</sub> emissions in the Henderson-Webster SO<sub>2</sub> Nonattainment Area are from Century Aluminum and essentially all the SO<sub>2</sub> emitted from the facility comes from the oxidation of sulfur that comes into the plant in the petroleum coke and pitch raw materials. To accurately account for total SO<sub>2</sub> emissions, Century Aluminum uses a mass balance method based on the sulfur content of raw materials (i.e., raw petroleum coke and pitch). Thus, each month, Century Aluminum compiles data on the sulfur content contained in the raw materials and estimates the sum of SO<sub>2</sub> emissions from each emission unit using the facility’s mass balance method<sup>16</sup> taking into consideration various emission factors for each source (i.e., sum of total ABF and potline emissions). The estimated annual SO<sub>2</sub> emissions from 2017-2019 using the mass balance method is found in Table 2 below.<sup>17</sup> The 2018 emissions in Table 2 contribute to the total point source emissions for Henderson County in Table 1 above.

**Table 2 - Century Aluminum Estimated SO<sub>2</sub> Emissions**

Century Aluminum	SO <sub>2</sub> Emission Totals (tpy)		
	2017	<b>2018</b>	2019
	4629.26	<b>4239.26</b>	4314.17

- Green Station is a power plant in Webster County. At the time of SO<sub>2</sub> designations, Green Station consisted of two coal-fired boilers (Units G1 and G2)

<sup>15</sup> A list of all SO<sub>2</sub> emitting units at the facility may be found in Table 5 of Kentucky’s February 15, 2024, revision.

<sup>16</sup> Century Aluminum’s mass balance approach has historically been termed the “SO<sub>2</sub> Calculation Engine.” The SO<sub>2</sub> Calculation Engine has previously been reviewed and approved by the Division and is currently the stipulated method within the facility’s title V permit for calculating actual 12-month rolling average SO<sub>2</sub> emissions. An example of the mass balance calculation using data from September of 2018 is included in Table 3 - *September 2018 SO<sub>2</sub> Calculation Engine for Century Aluminum Emissions*, from Kentucky’s February 15, 2024, SIP revision.

<sup>17</sup> The SO<sub>2</sub> Calculation Engine calculations equal the actual emissions data found in Kentucky’s February SIP revision, Appendix A, a spreadsheet titled, “Henderson-Webster Base Year Emissions Inventory.”

with actual SO<sub>2</sub> emissions for the 2018 base year of 4,114.50 tons of SO<sub>2</sub> combined contributing 45 percent of the total SO<sub>2</sub> emissions in the Henderson-Webster SO<sub>2</sub> Nonattainment Area. Both units were converted to natural gas-fired on May 26, 2022.<sup>18</sup> Table 3 below provides the actual SO<sub>2</sub> emissions in tpy for 2017 to 2019 for BREC-Green Station. The 2018 emissions in Table 3 contribute to the total point source emissions for Green Station in Table 1 above for Webster County.

**Table 3 - BREC Green Station 2 SO<sub>2</sub> Emissions**

BREC-Green Station	SO <sub>2</sub> Emission Totals (tpy)			
	Unit	2017	2018	2019
	G1	2,334.41	<b>2,689.65</b>	2,163.18
	G2	773.72	<b>1,424.85</b>	752.44
Emission Totals		3,108.14	<b>4,114.50</b>	2,915.62

- The Robert Reid and HMP&L Station 2, at the time of the nonattainment designation, were permitted as a single, stationary electric power generating source in Webster County with one title V operating permit and four boilers. Two boilers were owned and operated by Reid Station (Unit 1 - R1 and an emergency peaking unit Reid Combustion Turbine – RT).<sup>19</sup> The remaining two coal-fired units were owned by HMP&L (Henderson Station Unit 1 (H1) and 2 (H2)) but also operated by BREC.
  - The Reid Station units ceased operations in May 2015 to convert from coal-fired burners to new natural gas-fired low NOx burners. However, due to compliance issues, the units never converted to natural gas, nor did the facility resume operations.<sup>20</sup> Reid Station’s operating authority was

<sup>18</sup> See natural gas conversion documentation for BREC – Green Station in Appendix C of Kentucky’s February 15, 2024, SIP revision.

<sup>19</sup> See Permit No. V-11-003 R1 in Appendix B of Kentucky’s February 15, 2024, SIP revision.

<sup>20</sup> In 2015, Reid Station ceased operating to undergo a natural gas conversion; however, this modification was delayed.

officially revoked January 17, 2022, when its operating permit was merged with the BREC Green Station title V operating permit V-19-020 R2. Unit R1 has been removed from the permit.<sup>21, 22</sup> Reid station emitted no SO<sub>2</sub> emissions in 2018 due to the facility's operational shutdown in 2015. Thus, no actual 2018 SO<sub>2</sub> emissions for the facility are reflected in the total point source emissions in Table 1.

- In 2018, the two HMP&L units (EU 02 and 03) were owned by the city of Henderson, operated by BREC, and emitted a cumulative 846.55 tons of SO<sub>2</sub>. The remaining emergency diesel generator (EU 07), emergency fire pump (EU 08), and the Reid Combustion Turbine-RT (EU 06) emitted negligible SO<sub>2</sub> emissions in 2018.<sup>23</sup> The facility retired on February 1, 2019.<sup>24</sup> Table 4 shows the total SO<sub>2</sub> emissions from the BREC HMP&L Station 2 units from 2017 through 2019. The 2018 emissions are included in the total point source SO<sub>2</sub> emissions for Webster County provided in Table 1 above.

**Table 4 - BREC HMP&L Station 2 SO<sub>2</sub> Emissions**

		<b>SO<sub>2</sub> Emissions Totals (tpy)</b>			
		Unit	2017	<b>2018</b>	2019
HMP&L	EU 02		591.47	<b>423.55</b>	7.60
	EU 03		816.58	<b>423.00</b>	9.30
	EU 06		1.27	<b>1.85</b>	2.89
	EU 07		0.01	<b>0.00</b>	0.00
	EU 08		0.00	<b>0.00</b>	0.00
Emission Totals			1409.33	<b>848.40</b>	19.79

*D. Minor Point Sources*

<sup>21</sup> Reid Station Unit R1 was removed from the merged Green Station operating permit.

<sup>22</sup> See Permit No. V-19-020 R2 in Appendix B of Kentucky's February 15, 2024, SIP revision.

<sup>23</sup> See Appendix C of Kentucky's February 15, 2024, SIP revision.

<sup>24</sup> See documentation for BREC HMP&L Station 2 in Appendix C of Kentucky's February 15, 2024, SIP revision.

Kentucky also identified five minor point sources in the Area. Cumulatively, these minor point sources contributed less than one ton of SO<sub>2</sub> emissions in 2018. Table 5 below lists the minor point sources in the Area and their 2018 emissions. These emissions are included in the total point source emissions in Table 1.

**Table 5 - 2018 Minor Point Source Actual SO<sub>2</sub> Emissions for the Henderson-Webster SO<sub>2</sub> Nonattainment Area**

Minor Point Source	SO <sub>2</sub> Emissions (tpy)
<b>Henderson</b>	
AMG Aluminum North America LLC	0.01
American Tower Corp	0.02
Kentucky 5 Star Energy LLC	0.00
Tyson Chicken Inc. – Robards Facility	0.90
<b>Webster</b>	
Tyson Chicken Inc. – Sebree Feed Mill	0.02
Emission Total	0.95

*E. Other Emission Source Categories*

On-road emission source emissions include vehicles such as automobiles, trucks, motorcycles, and other motor vehicles traveling on public roadways that use gasoline, diesel, and other fuels in the Henderson-Webster SO<sub>2</sub> Nonattainment Area. As mentioned before, Kentucky utilized MOVES3.0.4 in collaboration with the Kentucky Transportation Cabinet<sup>25</sup> to develop the on-road emission estimates for the partial county Henderson-Webster SO<sub>2</sub> Nonattainment Area and apportioned to the Area based on the population adjustment percentage discussed above. Kentucky estimated the total 2017 on-road SO<sub>2</sub> emissions for the Henderson County portion and the Webster County portion of the Area at 0.01 tpy each; thus, collectively, the 2017 on-road emissions for the entire Henderson-Webster SO<sub>2</sub> Nonattainment Area is estimated to be 0.02 tpy.<sup>26, 27</sup> A more detailed discussion of the on-road emissions inventory development for the Area can be found in the Commonwealth’s February 15, 2024, revision.

<sup>25</sup> See Appendix D for more information on the data used.

<sup>26</sup> The emission totals in Henderson and Webster Counties were apportioned to the Henderson-Webster SO<sub>2</sub> Nonattainment Area using a percentage adjustment derived from 2010 Census Bureau population data.

<sup>27</sup> Emissions data can be found in Appendix A of the February 15, 2024, SIP revision.

The Cabinet calculated non-point and non-road emissions for the Area using the 2017 NEI for each county and a percentage adjustment derived from 2010 Census Bureau population data. The Cabinet estimated the non-point emissions for the portion of Henderson County in the Area at 1.13 tpy SO<sub>2</sub> and 0.03 tpy for non-road SO<sub>2</sub> emissions. For the portion of Webster County in the Area, the Cabinet estimated 1.61 tpy of SO<sub>2</sub> for non-point and 0.04 tpy SO<sub>2</sub> for non-road SO<sub>2</sub> emissions. A more detailed discussion of the emissions inventory development for the Area can be found in the Commonwealth's February 15, 2024, revision.

Table 1 above summarizes the major point and minor point 2018 base year and on-road, non-road, and non-point 2017 base year emissions, expressed in tpy, in the Area. The Cabinet determined that point sources account for more than 99 percent of the total SO<sub>2</sub> emissions in the Henderson-Webster SO<sub>2</sub> Nonattainment Area. According to Kentucky's estimates, Century Aluminum in Henderson County accounted for 45 percent of the total SO<sub>2</sub> emissions in the Area and BREC-Green Station accounted for 46 percent of the total. The remaining two point sources at BREC HMP&L Station 2 contributed nine percent, and, due to the 2015 operational shutdown, BREC Reid emitted no SO<sub>2</sub> emissions in 2018.

EPA has analyzed Kentucky's February 15, 2024, SIP revision for consistency with CAA section 172(c)(3). This included Kentucky's methodology for apportioning partial county emissions, its rationale for using 2018 base year emissions for point source and 2017 base year emissions for the remaining source categories (on-road, non-road, and non-point sources), and its methodology to quantify emissions estimates for on-road and non-road sources. Based on this analysis, EPA is proposing to approve Kentucky's base year emissions inventory for the Henderson-Webster SO<sub>2</sub> Nonattainment Area.

### **III. Proposed Actions**

For the reasons discussed above, EPA is proposing to approve Kentucky's January 26, 2024, and February 15, 2024, SIP revisions containing a certification that its existing SIP-approved NNSR program meets the NNSR requirements for the 2010 SO<sub>2</sub> NAAQS and an

emissions inventory, respectively, for the Henderson-Webster SO<sub>2</sub> Nonattainment Area.

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

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. *See* 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, these proposed actions merely propose to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, these proposed actions:

- Are not significant regulatory actions subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993);
- Are not subject to Executive Order 14192 (90 FR 9065, February 6, 2025) because SIP actions are exempt from review under Executive Order 12866;
- Do not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- Are certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- Do not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- Do not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Are not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because they approve a state program;
- Are not significant regulatory actions subject to Executive Order 13211 (66 FR 28355, May 22, 2001); and
- Are not subject to requirements of section 12(d) of the National Technology Transfer and

Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA.

In addition, 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 and will not impose substantial direct costs on Tribal governments or preempt Tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

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

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Sulfur oxides.

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

Dated: August 27, 2025.

**Kevin McOmber,**  
*Regional Administrator,*  
*Region 4.*

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