

ENERGY AND ENVIRONMENT CABINET
Department for Environmental Protection
Division for Air Quality
(Amendment)

401 KAR 53:010. Ambient air quality standards.

RELATES TO: KRS 224.20-100, 224.20-110, 224.20-120, 40 C.F.R. Parts 50, 51, 52, 53, 58, 75, 81, 42 U.S.C. 7401-7671q

STATUTORY AUTHORITY: KRS 224.10-100(5), 42 U.S.C. 7401-7671q

CERTIFICATION STATEMENT:

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(5) ~~authorizes~~~~[requires]~~ the cabinet to promulgate administrative regulations for the prevention, abatement, and control of air pollution. This administrative regulation establishes ambient air quality standards necessary for the protection of the public health, the general welfare, and the property and people in the Commonwealth of Kentucky.

Section 1. Ambient Air Quality Standards. The primary and secondary ambient air quality standards for sulfur oxides, particulate matter, carbon monoxide, ozone, nitrogen dioxide, lead, hydrogen sulfide, gaseous fluorides, total fluorides, and odors are ~~established~~~~[specified]~~ in Appendix A of this administrative regulation. Measurements shall be made by methods and frequency specified in Section 2 of this administrative regulation.

Section 2. Methods of Measurement. For those air contaminants for which there are state ambient air quality standards that are the same as the national ambient air quality standards, measurements shall be made in accordance with 40 C.F.R. Parts 50 and 53. For other air contaminants for which there are state ambient air quality standards, measurements shall be made according to this administrative regulation, reference methods, or equivalent methods. The frequency of measurements for all air contaminants shall be prescribed by the cabinet, in accordance with 40 C.F.R. Parts 50 and 53, 401 KAR 50:015, or this administrative regulation.

Section 3. Within sixty (60) days of promulgation or revision of any primary or secondary ambient air quality standard by the U.S. EPA, the cabinet shall initiate proceedings to promulgate or review this administrative regulation in conformance with the federal ambient air quality standards.

Section 4. Appendix A. Ambient Air Quality Standards.

AMBIENT AIR QUALITY STANDARDS The following air contaminant concentrations shall apply to any single point location:

Pollutant	Primary Standard	Secondary Standard
	9 ppm ⁽¹⁾	
Carbon Monoxide Eight (8) hour average	(10 mg/m ³)	----
One (1) hour average	35 ppm ⁽¹⁾ (40 mg/m ³)	
Lead Rolling three (3) month mean	0.15 µg/m ³	Same as primary
	53 ppb	
Nitrogen Dioxide Annual arithmetic mean	(100 µg/m ³)	Same as primary --
One (1) hour average	(2) 100 ppb	

Ozone One (1) hour average Eight (8) hour average 2015 standard 2008 standard 1997 standard	0.12 ppm ⁽³⁾ 0.070 ppm 0.075 ppm 0.08 ppm ⁽⁴⁾	Same as primary ⁽³⁾ Same as primary Same as primary Same as primary ⁽⁴⁾
Particulate Matter, measured as PM ₁₀ Twenty-four (24) hour average	150 µg/m ³	Same as primary
Particulate Matter, measured as PM _{2.5} Annual arithmetic mean <u>2024 standard</u> 2012 standard 2006 standard 1997 standard Twenty-four (24) hour average 2012 standard 2006 standard 1997 standard	9 µg/m ³ 12.0 µg/m ³ 15.0 µg/m ³ 15.0 µg/m ³ 35 µg/m ³ 35 µg/m ³ 65 µg/m ³ 0.030 ppm ⁽¹⁾⁽⁶⁾ 75 ppb -- 0.14 ppm ⁽¹⁾⁽⁶⁾	(5) Same as primary Same as primary Same as primary Same as primary Same as primary Same as primary Same as primary 10 ppb -- 0.5 ppm ⁽¹⁾⁽⁶⁾
Sulfur Dioxide Annual arithmetic mean One (1) hour average Three (3) hour average Twenty-four (24) hour average	0.030 ppm ⁽¹⁾⁽⁶⁾ 75 ppb -- 0.14 ppm ⁽¹⁾⁽⁶⁾	10 ppb -- 0.5 ppm ⁽¹⁾⁽⁶⁾
Gaseous Fluorides - (expressed as HF) Annual arithmetic mean One (1) month average One (1) week average Twenty-four (24) hour average Twelve (12) hour average	400 µg/m ³ (0.5 ppm) -- 800 µg/m ³ (1.0 ppm) --	-- 0.82 µg/m ³ (1.00 ppb) 1.64 µg/m ³ (2.00 ppb) 2.86 µg/m ³ (3.50 ppb) 3.68 µg/m ³ (4.50 ppb)
Hydrogen Sulfide One (1) hour average	--	14 µg/m ³ (0.01 ppm) A mixture of one (1) volume of ambient air and seven (7) volumes of odorless air shall have no detectable odor at any time.
Odors	--	--
Total Fluorides Dry weight basis (as fluoride ion) in and on forage for consumption by grazing ruminants: Average concentration of monthly samples over growing season (not to exceed six (6) consecutive months) Two (2) month average One (1) month average	-- -- --	40 ppm 60 ppm 80 ppm

Footnotes: ¹ Average is not to be exceeded more than once per calendar year. ² The official level of the annual NO₂ standard is 0.053 ppm, equal to fifty-three (53) ppb, which is shown for the purpose of clearer comparison to the one (1) hour standard. ³ The U.S. Environmental Protection Agency revoked the one (1) hour ozone standard in all areas in 2005. However, some areas have continuing obligations under the standard. ⁴ The U.S. Environmental Protection Agency revoked the 1997 eight (8) hour ozone standard in 2015. However, some areas have continuing obligations under the standard. ⁵ The secondary ambient air quality standard was not adjusted from the previously established standard. ⁶ The 1971 sulfur dioxide standards remain in effect until one (1) year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved, in accordance with 40 C.F.R. Part 52, Subpart S. 401 KAR 053:010. Ambient air quality standards.
JOHN S. LYONS, Secretary

APPROVED BY AGENCY: September 11, 2026

FILED WITH LRC: September 14, 2026 at 2:40 p.m.

PUBLIC HEARING AND COMMENT PERIOD: A virtual public hearing on this administrative regulation will be held on November 24th, 2026, at 10 a.m. (Eastern Time) / 9 a.m. (Central Time). Individuals interested in being heard at this hearing shall notify this agency in writing by November 17th, 2026, five workdays prior to the hearing, of their intent to attend. If no notification of intent to attend the hearing was received by that date, the hearing may be cancelled. A transcript of the public hearing will not be made unless a written request for a transcript is made. If you do not wish to be heard at the public hearing, you may submit written comments on the proposed administrative regulation. Written comments shall be accepted through November 30th, 2026. Send written notification of intent to be heard at the public hearing or written comments on the proposed administrative regulation amendment to the contact person.

CONTACT PERSON: Christian Ewing, Environmental Scientist Advisor, 300 Sower Boulevard, 2nd Floor, Frankfort, Kentucky 40601, Phone: 502-782-6604, E-mail: Christian.Ewing@ky.gov

REGULATORY IMPACT ANALYSIS AND TIERING STATEMENT

Contact Person: Christian Ewing, **Phone:** 502-782-6604, **Email:** Christian.Ewing@ky.gov

Subject Headings: Pollution, Energy, Environment and Conservation

(1) Provide a brief summary of:

(a) What this administrative regulation does:

This administrative regulation establishes the national ambient air quality standards (NAAQS) for carbon monoxide, nitrous oxides, ozone, particulates, and sulfur dioxide, which are necessary to protect public health and public welfare in the Commonwealth of Kentucky (Commonwealth). This regulation also establishes additional state-specific standards for hydrogen sulfide, fluorides, and odor.

(b) The necessity of this administrative regulation:

This administrative regulation is necessary to establish the NAAQS to protect public health and welfare in the Commonwealth.

(c) How this administrative regulation conforms to the content of the authorizing statutes:

KRS 224.10-100(5) authorizes the Energy and Environment Cabinet (Cabinet) to promulgate administrative regulations for the prevention, abatement, and control of air pollution. This administrative regulation establishes the NAAQS necessary to protect public health and welfare in the Commonwealth.

(d) How this administrative regulation currently assists or will assist in the effective administration of the statutes:

This administrative regulation establishes the NAAQS necessary to protect public health and welfare in the Commonwealth.

(2) If this is an amendment to an existing administrative regulation, provide a brief summary of:

(a) How the amendment will change this existing administrative regulation:

This amendment updates the primary PM_{2.5} NAAQS and the secondary sulfur dioxide (SO₂) NAAQS promulgated by the United States Environmental Protection Agency (EPA) in 2024.

(b) The necessity of the amendment to this administrative regulation:

This amendment is necessary to ensure consistency between the state and federal rulemaking.

(c) How the amendment conforms to the content of the authorizing statutes:

KRS 224.20-110 authorizes the Cabinet to promulgate administrative regulations for the prevention, abatement, and control of air pollution. The Cabinet complies with this mandate by implementing and enforcing the NAAQS of this administrative regulation. (d) How the amendment will assist in the effective administration of statutes: This amendment assists the cabinet in fulfilling its statutory obligation to prevent, abate, and control air pollution by adopting the updated primary PM_{2.5} and secondary SO₂ NAAQS promulgated by EPA in 2024.

(d) How the amendment will assist in the effective administration of the statutes:

No answer provided.

(3) Does this administrative regulation or amendment implement legislation from the previous five years?No.

(4) List the type and number of individuals, businesses, organizations, or state and local governments affected by this administrative regulation:

The ambient air quality standards established in this administrative regulation apply to any single point location. This amendment will affect owners and operators of air contaminant sources which have emissions of particulate matter (PM2.5) and sulfur dioxide (SO2). The affected entities may include permitted industrial facilities and other businesses that emit PM2.5 or SO2, particularly major stationary sources and sources undertaking modifications subject to the applicable air quality requirements. Affected entities have to show that any emissions of SO2 and PM2.5 do not contribute to a violation of the NAAQS in ambient air, as defined in 401 KAR 53:005.

(5) Provide an analysis of how the entities identified in question (4) will be impacted by either the implementation of this administrative regulation, if new, or by the change, if it is an amendment, including:

(a) List the actions that each of the regulated entities identified in question (4) will have to take to comply with this administrative regulation or amendment:

The changes in this amendment will impact owners and operators of air contaminant sources subject to Kentucky's air permitting requirements for SO2 or PM2.5. When an affected entity submits an application to the Division for Air Quality (Division) for a new permit or permit revision, the entity will continue to be required to evaluate and, where applicable, model emissions of SO2 or PM2.5 to demonstrate compliance with the applicable NAAQS as part of the permitting process. The primary action required of affected entities is to use the revised SO2 or PM2.5 NAAQS when conducting the analyses required for applicable permit applications and revisions.

(b) In complying with this administrative regulation or amendment, how much will it cost each of the entities identified in question (4):

There is no additional cost for entities as a result of this amendment.

(c) As a result of compliance, what benefits will accrue to the entities identified in question (4):

Compliance with the NAAQS in this amendment will ensure that air quality is maintained at levels determined by EPA and the Commonwealth to protect human health and public welfare. Compliance will also help ensure that Kentucky remains authorized by EPA to implement the Clean Air Act through its state implementation plan and air quality permitting program.

(6) Provide an estimate of how much it will cost the administrative body to implement this administrative regulation:

(a) Initially:

The Division will not incur any additional costs for the implementation of this administrative regulation.

(b) On a continuing basis:

The Division will not incur any additional costs for the implementation of this administrative regulation.

(7) What is the source of the funding to be used for the implementation and enforcement of this administrative regulation or this amendment:

The Division's current operating budget will be used for the implementation and enforcement of this administrative regulation.

(8) Provide an assessment of whether an increase in fees or funding will be necessary to implement this administrative regulation, if new, or by the change if it is an amendment:

No increase in fees or funding is necessary to implement this amendment.

(9) State whether or not this administrative regulation establishes any fees or directly or indirectly increases any fees:

This administrative regulation does not establish any fees, nor does it directly or indirectly increase any fees.

(10) TIERING: Is tiering applied?

Yes, tiering is applied. Standards for pollutants are established as either primary or secondary standards. They are also tiered based on averaging time.

FISCAL IMPACT STATEMENT

(1) Identify each state statute, federal statute, or federal regulation that requires or authorizes the action taken by the administrative regulation.

: KRS 224.10-100, 42 U.S.C. 7410(a)(1), 40 C.F.R. Part 50.

(2) Identify the promulgating agency and any other affected state units, parts, or divisions:

The Energy and Environment Cabinet Division for Air Quality (Division) is the promulgating agency for this regulation.

(a) Estimate the following for the first year:

Expenditures: There is no effect on current expenditures.

Revenues: There is no effect on current revenues.

Cost Savings: There is no effect on cost savings.

(b) How will expenditures, revenues, or cost savings differ in subsequent years?

The expenditures, revenues, and cost savings will not change in subsequent years.

(3) Identify affected local entities (for example: cities, counties, fire departments, school districts):

None.

(a) Estimate the following for the first year:

Expenditures: There is no effect on current expenditures.

Revenues: There is no effect on current revenues.

Cost Savings: There is no effect on cost savings.

(b) How will expenditures, revenues, or cost savings differ in subsequent years?

The expenditures, revenues, and cost savings will not change in subsequent years.

(4) Identify additional regulated entities not listed in questions (2) or (3):

Entities that emit Particulate Matter (PM_{2.5}) or Sulfur Dioxide (SO₂) into the air may be impacted by this regulation through future attainment status designations. Facilities need to model for no impact to the new National Ambient Air Quality Standards (NAAQS) established in this regulation, however, they are already required to do so at the federal level.

(a) Estimate the following for the first year:

Expenditures: There is no effect on current expenditures.

Revenues: There is no effect on current revenues.

Cost Savings: There is no effect on cost savings.

(b) How will expenditures, revenues, or cost savings differ in subsequent years?

The expenditures, revenues, and cost savings will not change in subsequent years.

(5) Provide a narrative to explain the:

(a) Fiscal impact of this administrative regulation:

Kentucky is already meeting the new secondary SO₂ NAAQS, therefore there is no fiscal impact to implement this regulation. Kentucky recommended statewide attainment for the new primary PM_{2.5} NAAQS. However, Kentucky has not been given an official status designation from EPA for either of these new standards.

There should be no additional fiscal impact from this amendment as facilities are already required to comply and model impacts to the NAAQS under federal law.

(b) Methodology and resources used to determine the fiscal impact:

All fiscal impact was analyzed by EPA in their regulatory impact analysis. Cost is calculated as part of the analysis, however the Clean Air Act prohibits cost from being considered in the setting of the standard. There are no additional costs associated with changing standards for modeling purposes.

(6) Explain:

(a) Whether this administrative regulation will have an overall negative or adverse major economic impact to the entities identified in questions (2) - (4). (\$500,000 or more, in aggregate)

This administrative regulation will not have a major economic impact.

(b) The methodology and resources used to reach this conclusion:

All fiscal impact was analyzed by EPA in their regulatory impact analysis. Cost is calculated as part of the analysis, however the Clean Air Act prohibits cost from being considered in the setting of the standard. There are no additional costs associated with changing standards for modeling purposes.

FEDERAL MANDATE ANALYSIS COMPARISON

(1) Federal statute or regulation constituting the federal mandate.

The EPA promulgated the federal regulations found in 40 C.F.R. Part 50 pursuant to 42. U.S.C. 7410(a)(1).

(2) State compliance standards.

This administrative regulation establishes the National Ambient Air Quality Standards (NAAQS) in the Commonwealth.

(3) Minimum or uniform standards contained in the federal mandate.

40 C.F.R. Part 50 is the federal rule establishing the NAAQS for criteria air pollutants.

(4) Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate?

This administrative regulation will not impose stricter requirements or different responsibilities or requirements for the NAAQS than those already required at the federal level. The state is not updating the standards for odor, fluorides, and hydrogen sulfide as part of this amendment.

(5) Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements.

The NAAQS set in this amendment are identical to the federal standards.