

Technical Amendment
March 7, 2025
ENERGY AND ENVIRONMENT CABINET
Department for Environmental Protection
Division for Air Quality
(Technical Amendment)

401 KAR 51:001. Definitions for 401 KAR Chapter 51.

RELATES TO: KRS 48.010(15)(a), 224.1-010, 224.20-100, 224.20-110, 224.20-120, 40 C.F.R. Chapter I, 50 Appendices A-R, 51.100, 51.121, 51.165, 51.166, 51 Appendix S, 52.920, 53, 60, 60 Appendices A, B, 61, 61 Appendix B, 63 Appendices A-D, 70.2, 75, 82, 96, 42 U.S.C. 7401-7671q

STATUTORY AUTHORITY: KRS 224.10-100(5)

CERTIFICATION STATEMENT:

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(5) requires the cabinet to promulgate administrative regulations for the prevention, abatement, and control of air pollution. This administrative regulation defines the terms used in 401 KAR Chapter 51. The definitions contained in this administrative regulation are not more stringent than the corresponding federal definitions.

Section 1. Definitions. The definitions with citations to the Code of Federal Regulations shall be governed by 40 C.F.R. Parts 50 through 96, as published on July 1, 2012.

(1) "Acid rain emissions limitation" means a limitation on emissions of SO₂ or NO_x imposed by the Acid Rain Program under 42 U.S.C. 7651 to 7651o.

(2) "Actual emissions":

(a) Means the actual rate of emissions of a regulated NSR pollutant from an emissions unit as determined according to the following:

1. Actual emissions as of a particular date equals the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive twenty-four (24) month period, that precedes that date and is representative of normal source operation, unless a different time period is more representative of normal source operation; and
2. The unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time periods are used to calculate actual emissions;

(b) Means source-specific allowable emissions for the unit are equivalent to actual emissions of the unit if the cabinet has made an equivalency determination pursuant to 40 C.F.R. 51.166;

(c) Means, for an emissions unit that has not begun normal operations on a particular date, the potential to emit of the unit on that date; and

(d) Does not mean:

1. Calculating if a significant emissions increase has occurred; or
2. Establishing a PAL under 401 KAR 51:017, Section 20.

(3) "Actuals PAL" or "PAL" means a plant-wide applicability limit established for a major stationary source based on the baseline actual emissions of all emissions units at the source that emit or have the potential to emit the PAL pollutant.

(4) "Adverse impact on visibility" is defined by 40 C.F.R. 51.301.

(5) "Affected facility" means an apparatus, building, operation, road, or other entity or series of entities that emits or may emit an air contaminant into the outdoor atmosphere.

(6) "Air contaminant" is defined by KRS 224.1-010(1).

(7) "Air pollutant" means air contaminant.

- (8) "Air pollution" is defined by KRS 224.1-010(3).
- (9) "Air pollution control equipment" means a mechanism, device, or contrivance used to control or prevent air pollution, that is not, aside from air pollution control laws and administrative regulations, vital to production of the normal product of the source or to its normal operation.
- (10) "Allocate" or "allocation" means the number of NO_x allowances to be credited to a NO_x budget unit.
- (11) "Allocation period" means each three (3) year period beginning May 1, 2004.
- (12) "Allowable emissions" means:
- (a) The emissions rate of a stationary source calculated using the maximum rated capacity of the source, unless the source is subject to federally enforceable limits that restrict the operating rate, hours of operation, or both, and the most stringent of the following:
 1. The applicable standards codified in 40 C.F.R. Parts 60 and 61;
 2. The applicable SIP emissions limitations, including those with a future compliance date; or
 3. The emissions rates specified as a federally enforceable permit condition, including those with a future compliance date; or
 - (b) For an actuals PAL, the emissions rate of a stationary source calculated considering any emission limitations that are enforceable as a practical matter on the emissions unit's potential to emit, and the most stringent provision of paragraph (a)1. through 3. of this subsection.
- (13) "Alteration" means:
- (a) The installation or replacement of air pollution control equipment at a source; or
 - (b) A physical change in or change in the method of operation of an affected facility that increases the potential to emit a pollutant, to which a standard applies, emitted by the facility or that results in the emission of an air pollutant, to which a standard applies, not previously emitted.
- (14) "Alternative method" is defined by 40 C.F.R. 60.2. For purposes of this definition, "administrator" means both the U.S. EPA and the cabinet.
- (15) "Ambient air" means that portion of the atmosphere, external to buildings, to which the general public has access.
- (16) "Ambient air quality standard" means a numerical expression of a specified concentration level for a particular air contaminant and the time averaging interval over which that concentration level is measured and is a goal to be achieved in a stated time through the application of appropriate preventive or control measures.
- (17) "ANSI" means American National Standards Institute.
- (18) "AOAC" means Association of Official Analytical Chemists.
- (19) "ASTM" means American Society for Testing and Materials.
- (20) "Baseline actual emissions" means the rate of emissions, in tons per year, of a regulated NSR pollutant, that:
- (a) For an existing electric utility steam generating unit (EUSGU), the unit actually emitted during any consecutive twenty-four (24) month period selected by the owner or operator within the five (5) year period immediately preceding the date the owner or operator begins actual construction of the project, unless a different twenty-four (24) month time period is more representative of normal source operation.
 1. The rate is an average that:
 - a. Includes fugitive emissions, to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions;
 - b. Is adjusted downward to exclude any noncompliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive twenty-four (24) month period; and

- c. Is based on any consecutive twenty-four (24) month period for which there is adequate information for determining annual emissions, in tons per year, and for adjusting this amount as necessary according to clause b. of this subparagraph; and
 - 2. If a project involves multiple emissions units, only one (1) consecutive twenty-four (24) month period is used to determine the baseline actual emissions for the emissions units being changed with a different consecutive twenty-four (24) month period allowed for each regulated NSR pollutant;
 - (b) For an existing emissions unit that is not an EUSGU, the unit actually emitted during any consecutive twenty-four (24) month period selected by the owner or operator within the ten (10) year period beginning on or after November 15, 1990, and immediately preceding the earlier of the date the owner or operator begins actual construction of the project or the date a complete permit application is received by the cabinet for a permit required under 401 KAR 51:017 or 51:052.
 - 1. The rate is an average that:
 - a. Includes fugitive emissions, to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions;
 - b. Is adjusted downward:
 - (i) To exclude any noncompliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive twenty-four (24) month period;
 - (ii) To exclude any emissions that would have exceeded an emission limitation with which the major stationary source is required currently to comply, if the source had been required to comply with the limitations during the consecutive twenty-four (24) month period; and
 - (iii) For an emission limitation that is part of a maximum achievable control technology standard proposed or promulgated under 40 C.F.R. Part 63, only if the Commonwealth of Kentucky has taken credit for the emissions reductions in an attainment demonstration or maintenance plan consistent with 40 C.F.R. 51.165(a)(3)(ii)(G); and
 - c. Is based on any consecutive twenty-four (24) month period for which there is adequate information for determining annual emissions, in tons per year, and for adjusting this amount as necessary according to clause b. of this subparagraph.
 - 2. If a project involves multiple emissions units, only one (1) consecutive twenty-four (24) month period is used for each regulated NSR pollutant to determine the baseline actual emissions for the emissions units being changed with a different consecutive twenty-four (24) month period;
 - (c) For a new emissions unit, equals zero for determining the emissions increase that will result from the initial construction and operation of the new unit and thereafter, for all other purposes, equals the unit's potential to emit; or
 - (d) For a PAL for a stationary source, is determined as follows:
 - 1. For an existing EUSGU, in accordance with the procedures contained in paragraph (a) of this subsection;
 - 2. For other existing emissions units, in accordance with the procedures contained in paragraph (b) of this subsection; and
 - 3. For a new emissions unit, in accordance with the procedures contained in paragraph (c) of this subsection.
- (21) "Baseline area" means an intrastate area and every part of that area designated as attainment or unclassifiable pursuant to 42 U.S.C. 7407(d)(1)(A)(ii) or (iii) in which the major source or major modification establishing the minor source baseline date would construct or would have an air quality impact equal to or greater than one (1) $\mu\text{g}/\text{m}^3$

annual average of the pollutant for which the minor source baseline date is established for SO₂, NO₂, or PM₁₀ or equal to or greater than 0.3 µg/m³ annual average for PM_{2.5}.

(a) Area redesignations under 42 U.S.C. 7407(d)(1)(A)(ii) or (iii) do not intersect and are not smaller than the area of impact of a major stationary source or major modification that:

1. Establishes a minor source baseline date; or
2. Is subject to 401 KAR 51:017 and would be constructed in the Commonwealth of Kentucky.

(b) A baseline area established originally for total suspended particulate (TSP) increments remains in effect to determine the amount of available PM₁₀ increments, unless the cabinet rescinds the corresponding minor source baseline date.

(22) "Baseline concentration" means the ambient concentration level that exists in the baseline area on the date the applicable minor source baseline date is established.

(23) "Baseline date" means major source baseline date or minor source baseline date and is established for each pollutant for which increments or other equivalent measures have been established if the area in which the proposed source or modification would construct is designated as attainment or unclassifiable pursuant to 42 U.S.C. 7407(d)(1)(A)(ii) or (iii) for the pollutant on the date of the source's complete application; and

(a) For a major stationary source, the pollutant would be emitted in significant amounts; or

(b) For a major modification, there would be a significant net emissions increase of the pollutant.

(24) "Begin actual construction" means:

(a) Initiation of physical on-site construction activities on an emissions unit that are of a permanent nature and include installation of building supports and foundations, laying underground pipe work, and construction of permanent storage structures; and

(b) For a change in method of operations, those on-site activities, other than the preparatory activities, that mark the initiation of the change.

(25) "Best available control technology" or "BACT" means an emissions limitation, including a visible emission standard, based on the maximum degree of reduction for each regulated NSR pollutant that will be emitted from a proposed major stationary source or major modification and:

(a) Is determined by the cabinet pursuant to 401 KAR 51:017, Section 8, after taking into account energy, environmental, and economic impacts and other costs, to be achievable by the source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of that pollutant;

(b) Does not result in emissions of a pollutant that would exceed the emissions allowed by an applicable standard codified in 40 C.F.R. Parts 60 and 61; and

(c) Is satisfied by a design, equipment, work practice, or operational standard or combination of standards approved by the cabinet, if:

1. The cabinet determines pursuant to 40 C.F.R. 51.166(b)(12) that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible;
2. The standard establishes the emissions reduction achievable by implementation of the design, equipment, work practice, or operation; and
3. The standard provides for compliance by means that achieve equivalent results.

(26) "BOD" means biochemical oxidant demand.

(27) "Boiler" means an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

(28) "BTU" means British thermal unit.

(29) "Building, structure, facility, or installation" means all of the pollutant emitting activities that:

- (a) Belong to the same industrial grouping or have the same two (2) digit major group code as described in the Standard Industrial Classification Manual;
- (b) Are located on one (1) or more contiguous or adjacent properties;
- (c) Are under the control of the same person or persons under common control; and
- (d) Do not include the activities of a vessel.

(30) "°C" means degree Celsius (centigrade).

(31) "Cabinet" is defined by KRS 224.1-010(8).

(32) "Cal" means calorie.

(33) "Capital expenditure" is defined by 40 C.F.R. 60.2.

(34) "cfm" means cubic feet per minute.

(35) "CH₄" means methane.

(36) "Clean coal technology" is defined by 40 C.F.R. 51.166(b)(33).

(37) "Clean coal technology demonstration project" is defined by 40 C.F.R. 51.166(b)(34).

(38) "Clinker" means the product of a portland cement kiln from which finished cement is manufactured by milling and grinding.

(39) "CO" means carbon monoxide.

(40) "CO₂" means carbon dioxide.

(41) "COD" means chemical oxidant demand.

(42) "Combined cycle system" means a system comprised of one (1) or more combustion turbines, heat recovery steam generators, or steam turbines configured to improve overall efficiency of electricity generation or steam production.

(43) "Combustion turbine" means an enclosed fossil or other fuel-fired device that is comprised of a compressor, a combustor, and a turbine, and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine.

(44) "Commence" means that an owner or operator:

(a) Has undertaken a continuous program of construction, modification, or reconstruction of an affected facility, or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction, modification, or reconstruction of an affected facility; or

(b) For construction of a major stationary source or major modification in the PSD or NSR program, has all necessary preconstruction approvals or permits, and:

1. Has begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or
2. Has entered into binding agreements or contractual obligations, that cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.

(45) "Commence commercial operation" means to have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use. Except as provided in 401 KAR 51:195 or 40 C.F.R. 96.5:

(a) For a unit that is a NO_x budget unit under 40 C.F.R. 96.4, on the date the unit commences commercial operation, the date remains the unit's date of commencement of commercial operation even if the unit is subsequently modified, reconstructed, or repowered; or

(b) For a unit that is not a NO_x budget unit under 40 C.F.R. 96.4, on the date the unit commences commercial operation, the date the unit becomes a NO_x budget unit under

- 40 C.F.R. 96.4 is the unit's date of commencement of commercial operation.
- (46) "Commence operation" means, for a NO_x budget unit, to have begun a mechanical, chemical, or electronic process, including start-up of a unit's combustion chamber. Except as provided in 401 KAR 51:195 or 40 C.F.R. 96.5:
- (a) For a unit that is a NO_x budget unit under 40 C.F.R. 96.4 on the date of commencement of operation, the date remains the unit's date of commencement of operation even if the unit is subsequently modified, reconstructed, or repowered; or
 - (b) For a unit that is not a NO_x budget unit under 40 C.F.R. 96.4 on the date of commencement of operation, the date the unit becomes a NO_x budget unit under 40 C.F.R. 96.4 is the unit's date of commencement of operation.
- (47) "Complete" is defined by 40 C.F.R. 51.166(b)(22).
- (48) "Compliance schedule" means a time schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with a limitation or standard.
- (49) "Compliance supplement pool" means the quantity of NO_x allowances provided to Kentucky by the U.S. EPA to be:
- (a) Allocated to NO_x budget units that achieve early reduction; or
 - (b) Used to assist NO_x budget sources that are unable to meet the compliance deadline as provided in 401 KAR 51:180, Section 5.
- (50) "Construction" means:
- (a) Fabrication, erection, installation, or modification of an air contaminant source; or
 - (b) For the NSR program, any physical change or change in the method of operation, including fabrication, erection, installation, demolition, or modification of an emissions unit that would result in a change in the emissions at an air contaminant source.
- (51) "Continuous emissions monitoring system" or "CEMS" means all of the equipment necessary to meet the data acquisition and availability requirements of 401 KAR 51:017 or 51:052 to sample, condition (if applicable), analyze, and provide a record of emissions on a continuous basis.
- (52) "Continuous emission monitoring system for NO_x" or "CEMS for NO_x" means the equipment required to sample, analyze, measure, and provide, by readings taken at least once every fifteen (15) minutes of the measured parameters, a permanent record of NO_x emissions, expressed in tons per hour for NO_x. The following systems are necessary component parts, as required by 40 C.F.R. Part 75, included in a continuous emissions monitoring system:
- (a) Flow monitor;
 - (b) NO_x pollutant concentration monitor;
 - (c) Diluent gas monitor (O₂ or CO₂);
 - (d) Continuous moisture monitor; and
 - (e) Automated data acquisition and handling system.
- (53) "Continuous emissions rate monitoring system" or "CERMS" is defined by 40 C.F.R. 51.166(b)(46).
- (54) "Continuous monitoring system" means the total equipment, required under the applicable administrative regulations in 401 KAR Chapters 50 to 65, used to sample, to condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.
- (55) "Continuous parameter monitoring system" or "CPMS" is defined by:
- (a) 40 C.F.R. 51.166(b)(45) for 401 KAR 51:017; or
 - (b) 40 C.F.R. 51.165(a)(1)(xxxiii) for 401 KAR 51:052.
- (56) "Control period" means the period beginning May 1 of a year and ending on September 30 of the same year, inclusive.

- (57) "Director" means Director of the Division for Air Quality of the Energy and Environment Cabinet.
- (58) "District" is defined by KRS 224.1-010(10).
- (59) "dscf" means dry cubic feet at standard conditions.
- (60) "dscm" means dry cubic meter at standard conditions.
- (61) "Electric generating unit" means, for 401 KAR 51:160 to 51:195, a fossil fuel-fired boiler, combustion turbine, or a combined cycle system used to generate twenty-five (25) megawatts or more of electricity, some of which is offered for sale.
- (62) "Electric utility steam generating unit" or "EUSGU" is defined by 40 C.F.R. 51.166(b)(30).
- (63) "Emission standard" means that numerical limit that fixes the amount of an air contaminant or air contaminants that may be vented into the atmosphere from an affected facility or from air pollution control equipment installed in an affected facility.
- (64) "Emissions unit" means any part of a stationary source, including an EUSGU, that emits or has the potential to emit a regulated NSR pollutant. For 401 KAR 51:017 and 51:052, there are two (2) types of emissions units:
- (a) A new emissions unit, which is any emissions unit that is or will be newly constructed and that has existed for less than two (2) years from the date the unit first operated; and
 - (b) An existing emissions unit, which is any emissions unit that does not meet the requirements in paragraph (a) of this subsection or is a replacement unit.
- (65) "Enforceable as a practical matter" means that the emission or other standards contained in a permit or compliance schedule include:
- (a) Technically accurate emission standards and the portions of the source that are subject to the standards;
 - (b) A time period adequate to demonstrate compliance with the standards; and
 - (c) The method the source shall use to achieve and demonstrate compliance with the limitations and standards, including appropriate monitoring, recordkeeping, and reporting.
- (66) "Equivalent method" means a method of sampling and analyzing for an air pollutant that has been demonstrated to the cabinet and the U.S. EPA pursuant to 40 C.F.R. 53.3 to have a consistent and quantitatively known relationship to the reference method, under specified conditions.
- (67) "Excess NO_x emissions" means any tonnage of nitrogen oxides emitted by a NO_x budget unit during a control period that exceeds the NO_x budget emissions limitation for the unit.
- (68) "Exempt compound" or "exempt solvent" means an organic compound listed in the definition of volatile organic compound as not participating in atmospheric photochemical reactions.
- (69) "Existing source" means a source that is not a new source.
- (70) "Extreme nonattainment county" or "extreme nonattainment area" means a county or portion of a county designated extreme nonattainment for the national ambient air quality standard for ozone.
- (71) "°F" means degree Fahrenheit.
- (72) "Federal land manager" is defined by 40 C.F.R. 51.166(b)(24).
- (73) "Federally enforceable" means all limitations and conditions that are enforceable by the U.S. EPA, including:
- (a) Requirements developed under 40 C.F.R. Parts 60 and 61;
 - (b) Requirements in the Kentucky State Implementation Plan (SIP) approved by the U.S. EPA; and
 - (c) Any permit requirements established under 40 C.F.R. 52.21 or under the Kentucky SIP approved pursuant to 40 C.F.R. Part 51, Subpart I, including operating permits

- issued under a U.S. EPA-approved program incorporated into the SIP, that expressly requires adherence to a permit issued under the program.
- (74) "Federally enforceable permit" means a permit issued under 401 KAR 52:020 or 52:030, as appropriate.
- (75) "Fixed capital cost" means the capital needed to provide all the depreciable components.
- (76) "Fossil fuel" means natural gas; petroleum; coal; or a form of solid, liquid, or gaseous fuel derived from natural gas, petroleum, or coal.
- (77) "Fossil fuel fired" means, for a unit:
- (a) The combustion of fossil fuel, alone or in combination with another fuel, if the fossil fuel combusted comprises more than fifty (50) percent of the annual heat input on a BTU basis during a year starting in 1995 or, if a unit had no heat input starting in 1995, during the last year of operation of the unit prior to 1995; or
 - (b) The combustion of fossil fuel, alone or in combination with another fuel, if the fossil fuel is projected to comprise more than fifty (50) percent of the annual heat input on a BTU basis during a year, and the unit is to be fossil fuel fired as of the date during the year the unit begins combusting fossil fuel.
- (78) "ft" means feet or foot.
- (79) "Fuel" means natural gas; petroleum; coal; wood; or a form of solid, liquid, or gaseous fuel derived from these materials for the purpose of creating useful heat.
- (80) "Fugitive emissions" means those emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.
- (81) "g" means gram.
- (82) "gal" means gallon.
- (83) "General fund" is defined by KRS 48.010(15)(a).
- (84) "Generator" means a device that produces electricity.
- (85) "gr" means grain.
- (86) "HCl" means hydrochloric acid.
- (87) "Heat input" means the product, in MMBTU per unit of time, of the gross calorific value of the fuel, in BTU per lb, and the fuel feed rate into a combustion device, in mass of fuel per unit of time, that:
- (a) Does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources; and
 - (b) Is measured, recorded, and reported to the cabinet.
- (88) "HF" means hydrogen fluoride.
- (89) "Hg" means mercury.
- (90) "High terrain" is defined by 40 C.F.R. 51.166(b)(25).
- (91) "hr" means hour.
- (92) "Hydrocarbon" means an organic compound consisting predominantly of carbon and hydrogen.
- (93) "Hydrocarbon combustion flare" means:
- (a) A flare used to comply with an applicable New Source Performance Standard (NSPS) or Maximum Achievable Control Technology (MACT) standard, including uses of flares during startup, shutdown, or malfunction permitted under the standard; or
 - (b) A flare that serves to control emissions of waste streams comprised predominately of hydrocarbons and containing no more than 230 µg/dscm hydrogen sulfide.
- (94) "H₂O" means water.
- (95) "H₂S" means hydrogen sulfide.
- (96) "H₂SO₄" means sulfuric acid.
- (97) "in" means inch.

- (98) "Incineration" means the process of igniting and burning solid, semisolid, liquid, or gaseous combustible wastes.
- (99) "Industrial boiler or turbine" means a fossil fuel-fired boiler, combustion turbine, or a combined cycle system having a maximum design heat input of 250 MMBTU per hour or more that is not an electric generating unit.
- (100) "Innovative control technology" is defined by 40 C.F.R. 51.166(b)(19).
- (101) "Intermittent emissions" means emissions of particulate matter into the open air from a process that operates for less than any six (6) consecutive minutes.
- (102) "J" means joule.
- (103) "Kg" means kilogram.
- (104) "l" means liter.
- (105) "lb" means pound.
- (106) "Legally enforceable" means the cabinet or the U.S. EPA has the authority to enforce a certain restriction.
- (107) "Long dry kiln" means a kiln that employs no preheating of the feed and has a dry inlet feed.
- (108) "Long wet kiln" means a kiln that employs no preheating of the feed and the inlet feed to the kiln is a slurry.
- (109) "Low terrain" means an area other than high terrain.
- (110) "Lowest achievable emissions rate" or "LAER" means, for any source:
- (a)
 1. The most stringent emissions limitation that is contained in the Kentucky SIP for the class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that the limitation is not achievable; or
 2. The most stringent emissions limitation achieved in practice by the class or category of stationary source;
 - (b) For a major modification, the lowest achievable emissions rate for the new or modified emissions units at the stationary source; and
 - (c) An emissions limitation that does not exceed the allowable emissions of an applicable standard established pursuant to 40 C.F.R. Parts 60, 61, or 63.
- (111) "m" means meter.
- (112) "m³" means cubic meter.
- (113) "Major emissions unit" means:
- (a) Any emissions unit that emits or has the potential to emit 100 tons per year or more of a PAL pollutant in an attainment area; or
 - (b) Any emissions unit that emits or has the potential to emit a PAL pollutant in an amount that is equal to or greater than the major source threshold for the PAL pollutant as defined by the Clean Air Act, 42 U.S.C. 7401 - 7671q for nonattainment areas.
- (114) "Major modification" means a physical change in or a change in the method of operation of a major stationary source that results in a significant emissions increase and a significant net emissions increase of a regulated NSR pollutant.
- (a) A significant emissions increase from any emissions units or net emissions increase at a major stationary source that is significant for volatile organic compounds or nitrogen oxides is considered significant for ozone.
 - (b) A physical change or change in the method of operation does not include:
 1. Routine maintenance, repair, and replacement;
 2. Use of alternative fuel or raw material by reason of an order or a natural gas curtailment plan in effect under a federal act;
 3. Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;
 4. Use of an alternative fuel or raw material by a stationary source that:

- a. The source was capable of accommodating before January 6, 1975, for 401 KAR 51:017, or December 21, 1976, for 401 KAR 51:052; unless the change would be prohibited by a federally enforceable permit condition that was established after January 6, 1975, for 401 KAR 51:017, or December 21, 1976, for 401 KAR 51:052, pursuant to 40 C.F.R. 51.165 or 51.166; or
 - b. The source is approved to use by a permit issued pursuant to 401 KAR 51:017 or 51:052;
- 5. An increase in the hours of operation or in the production rate, unless the change is prohibited by any federally enforceable permit condition established after January 6, 1975, for 401 KAR 51:017 or December 21, 1976, for 401 KAR 51:052 pursuant to 40 C.F.R. 52.21; after June 6, 1979, pursuant to 401 KAR 51:015; after September 22, 1982, pursuant to 401 KAR 51:017; or pursuant to 401 KAR 52:020 and 51:016E;
- 6. A change in ownership at a stationary source;
- 7. The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, if the project complies with the Kentucky SIP and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated;
- 8. The installation or operation of a permanent clean coal technology demonstration project that constitutes repowering, if the project does not result in an increase in the potential to emit of a regulated pollutant emitted by the unit, on a pollutant-by-pollutant basis; or
- 9. The reactivation of a very clean coal-fired electric utility steam generating unit.
- (c) Instead of this definition, the definition for "PAL major modification", in subsection (175) of this section, is used for a particular regulated NSR pollutant, if the major stationary source is complying with the requirements of 401 KAR 51:017, Section 20, and 401 KAR 51:052, Section 11, for a PAL for that pollutant.
- (115) "Major NSR permit" means a permit issued under Kentucky's PSD or NSR program.
- (116) "Major source" means a source with a potential emission rate equal to or greater than 100 tons per year of any one (1) of the following pollutants: particulate matter, sulfur oxides, nitrogen oxides, volatile organic compounds, carbon monoxide, or ODS.
- (117) "Major source baseline date" means:
 - (a) For PM₁₀ and sulfur dioxide, January 6, 1975;
 - (b) For nitrogen dioxide, February 8, 1988; and
 - (c) For PM_{2.5}, October 20, 2010.
- (118) "Major stationary source" means:
 - (a)
 - 1. A stationary source of air pollutants that emits, or has the potential to emit, 100 tons per year or more of a regulated NSR pollutant, except that:
 - a. For ozone nonattainment areas: 100 tons per year or more of volatile organic compounds or nitrogen oxides in a marginal or moderate ozone nonattainment area; fifty (50) tons per year or more of volatile organic compounds or nitrogen oxides in a serious ozone nonattainment area; twenty-five (25) tons per year or more of volatile organic compounds or nitrogen oxides in a severe ozone nonattainment area; or ten (10) tons per year or more of volatile organic compounds or nitrogen oxides in an extreme ozone nonattainment area;
 - b. Fifty (50) tons per year or more of carbon monoxide in a serious carbon monoxide nonattainment area where stationary sources contribute significantly to carbon monoxide levels; and

- c. Seventy (70) tons per year or more of particulate matter (PM₁₀) in a serious PM₁₀ nonattainment area; or
- 2.
- a. For the PSD program, any of the following stationary sources of air pollutants that emits, or has the potential to emit, 100 tons per year or more of a regulated NSR pollutant: fossil fuel-fired steam electric plants of more than 250 million BTU per hour heat input, coal cleaning plants with thermal dryers, kraft pulp mills, Portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, except ethanol production facilities producing ethanol by natural fermentation under the North American Industry Classification System (NAICS) codes 325193 or 312140, fossil fuel boilers, or combination of fossil fuel boilers, totaling more than 250 million BTU per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants; and
- b. Regardless of the stationary source size specified in clause a. of this subparagraph, a stationary source that emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant; or
3. Any physical change that will occur at a stationary source not otherwise qualifying under this subsection as a major stationary source, if the change will constitute a major stationary source by itself;
- (b) A source that is major for volatile organic compounds or nitrogen oxides is considered major for ozone; and
- (c) Fugitive emissions are included only if the source belongs to one (1) of the following categories of stationary sources:
1. Coal cleaning plants with thermal dryers;
 2. Kraft pulp mills;
 3. Portland cement plants;
 4. Primary zinc smelters;
 5. Iron and steel mills;
 6. Primary aluminum ore reduction plants;
 7. Primary copper smelters;
 8. Municipal incinerators capable of charging more than 250 tons of refuse per day;
 9. Hydrofluoric, sulfuric, or nitric acid plants;
 10. Petroleum refineries;
 11. Lime plants;
 12. Phosphate rock processing plants;
 13. Coke oven batteries;
 14. Sulfur recovery plants;
 15. Carbon black plants (furnace process);
 16. Primary lead smelters;
 17. Fuel conversion plants;
 18. Sintering plants;
 19. Secondary metal production plants;

20. Chemical process plants, except ethanol production facilities producing ethanol by natural fermentation under NAICS codes 325193 or 312140;
21. Fossil-fuel boilers, or combination of fossil-fuel boilers, totaling more than 250 million BTUs per hour heat input;
22. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
23. Taconite ore processing plants;
24. Glass fiber processing plants;
25. Charcoal production plants;
26. Fossil fuel-fired steam electric plants of more than 250 million BTUs per hour heat input; or
27. Another stationary source category that, as of August 7, 1980, is being regulated under 42 U.S.C. 7411 or 7412.

(119) "Malfunction" means a sudden and infrequent failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner that is not caused entirely or in part by poor maintenance, careless operation, or other upset condition or equipment breakdown that is reasonably preventable.

(120) "Mandatory Class I area" means an area identified in 40 C.F.R. Part 81, Subpart D, if the administrator of the U.S. EPA, in consultation with the Secretary of the U.S. Department of Interior, has determined visibility to be an important value.

(121) "Marginal nonattainment county" or "marginal nonattainment area" means a county or portion of a county designated marginal nonattainment for the national ambient air quality standard for ozone.

(122) "Maximum design heat input" means the ability of a unit to combust a stated maximum amount of fuel per hour on a steady state basis, as determined by the physical design and physical characteristics of the unit.

(123) "Maximum potential hourly heat input" means an hourly heat input used for reporting purposes if a unit lacks certified monitors to report heat input and is:

(a) A value calculated according to 40 C.F.R. Part 75 using the maximum fuel flow rate and the maximum gross calorific value, if the unit intends to use 40 C.F.R. Part 75, Appendix D, to report heat input; or

(b) A value reported according to 40 C.F.R. Part 75 using the maximum potential flow rate and either the maximum percent CO₂ concentration (in percent CO₂) or the minimum percent O₂, if the unit intends to use a flow monitor and a diluents gas monitor.

(124) "Maximum potential NO_x emission rate" means the emission rate of NO_x (in lb per MMBTU) calculated according to 40 C.F.R. Part 75, Appendix F, Section 3, using the maximum potential NO_x concentration as defined in 40 C.F.R. Part 75, Appendix A, Section 2, and the maximum percent O₂ or the minimum percent CO₂ under all operating conditions of the unit except for unit startup, shutdown, and malfunction.

(125) "Maximum rated hourly heat input" means a unit specific maximum hourly heat input (MMBTU) that is the higher of the manufacturer's maximum rated hourly heat input or the highest observed hourly heat input.

(126) "μg" means microgram.

(127) "mg" means milligram.

(128) "Mid-kiln firing" means the secondary firing in kilns by injecting solid fuel at an intermediate point in the kiln using a specially designed feed injection mechanism for the purpose of decreasing NO_x emissions through:

(a) Burning part of the fuel at a lower temperature; and

(b) Reducing-conditions at the solid waste injection point that may destroy some of the NO_x formed upstream in the kiln burning zone.

(129) "min" means minute.

(130) "Minor source baseline date" means:

(a) The earliest date after the trigger date on which a major stationary source or a major modification subject to permit requirements established pursuant to 40 C.F.R. 52.21 or the Kentucky SIP submits a complete application. The trigger date is:

1. August 7, 1977, for PM₁₀ and SO₂;
2. February 8, 1988, for NO₂; and
3. October 20, 2011, for PM_{2.5};

(b) For TSP increments, that the originally established date remains in effect to determine the amount of available PM₁₀ increments, unless the cabinet rescinds the minor source baseline date pursuant to 40 C.F.R. 51.166(b)(14)(iv); and

(c) A date established for each pollutant for which increments or other equivalent measures have been established if:

1. The area in which the proposed source or modification will construct is designated as attainment or unclassifiable pursuant to 42 U.S.C. 7407(d)(1)(A)(ii) or (iii) for the pollutant on the date of its complete application pursuant to 401 KAR Chapter 52; and
2. For a major stationary source, the pollutant will be emitted in significant amounts or a significant net emissions increase of the pollutant will occur for a major modification.

(131) "MJ" means megajoules.

(132) "mm" means millimeter.

(133) "MM" means million.

(134) "mo" means month.

(135) "Moderate nonattainment county" or "moderate nonattainment area" means a county or portion of a county designated moderate nonattainment for the national ambient air quality standard for ozone.

(136) "Modification" means any physical change in, or a change in the method of operation of, an affected facility that:

(a) Increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or that results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted; and

(b) Is not solely:

1. Maintenance, repair, and replacement that the cabinet determines to be routine for a source category considering available information;
2. An increase in production rate of an affected facility, if that increase can be accomplished without a capital expenditure on that facility;
3. An increase in the hours of operation;
4. Use of an alternative fuel or raw material if, prior to the date a standard becomes applicable to that source type, the affected facility was designed to accommodate that alternative use. A facility is considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specification as amended prior to the change;
5. Conversion to coal required for energy considerations, as specified in 42 U.S.C. 7411(a)(8);
6. The addition or use of a system or device the primary function of which is the reduction of air pollutants, unless an emission control system is removed or replaced by a system that the cabinet determines to be less environmentally beneficial; or
7. The relocation or change in ownership of a source.

(137) "Monitoring device" means the total equipment, required by an applicable administrative regulation in 401 KAR Chapters 50 to 65, used to measure and record, if

applicable, process parameters.

(138) "Monitoring system" means a monitoring system that meets the requirements of any applicable administrative regulation in 401 KAR Chapters 50 to 65.

(139) "MWe" means megawatt electrical.

(140) "N₂" means nitrogen.

(141) "Nameplate capacity" means the maximum electrical generating output (in MWe) that a generator can sustain over a specified period of time if not restricted by seasonal or other deratings as measured with United States Department of Energy standards.

(142) "Natural conditions" means those naturally occurring phenomena that reduce visibility as measured in terms of visual range, contrast, or coloration.

(143) "Necessary preconstruction approvals or permits" means those permits or approvals required under the administrative regulations approved to the Kentucky SIP pursuant to 40 C.F.R. 52.920, and federal air quality control laws and regulations established pursuant to 42 U.S.C. 7401 - 7671q.

(144) "Net emissions increase" means:

(a) For any regulated NSR pollutant emitted by a major stationary source, the amount by which the sum of subparagraphs 1 and 2 of this paragraph exceeds zero:

1. An increase in emissions from a particular physical change or change in method of operation at a stationary source as calculated pursuant to 401 KAR 51:017, Section 1(4), or 401 KAR 51:052, Section 1(2); and

2. Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable. Baseline actual emissions for calculating increases and decreases under this paragraph are determined as defined in this section.

(b) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if:

1. For construction that commences prior to January 6, 2002, the change occurs between the date ten (10) years before construction on the change commences and the date that the increase from the change occurs; and

2. For construction that commences on and after January 6, 2002, the change occurs between the date five (5) years before construction on the change commences and the date that the increase from the change occurs.

(c) An increase or decrease in actual emissions is creditable only if:

1. The cabinet or the U.S. EPA has not relied on the change in issuing a permit for the source pursuant to 401 KAR 51:017, 51:052, or 40 C.F.R. 52.21; and

2. The permit is in effect at the time the increase or decrease in actual emissions from the particular change occurs.

(d) An increase or decrease in actual emissions of sulfur dioxide, particulate matter, or nitrogen oxides that occurs before the applicable minor source baseline date is creditable only if it is required to be considered in calculating the amount of maximum allowable increases remaining available. For particulate matter, only PM₁₀ emissions are used to evaluate the net emissions increase for PM₁₀.

(e) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.

(f) A decrease in actual emissions is creditable only to the extent that:

1. The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;

2. The decrease is enforceable as a practical matter at and after the time that actual construction on the particular change begins; and

3. The decrease has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.

- (g) An increase that results from a physical change at a source occurs if the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. A replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.
- (h) The term, actual emissions, as defined in subsection (2) of this section does not apply in determining creditable increases and decreases.
- (145) "New source" means a source, the construction, reconstruction, or modification of which commenced on or after the classification date as defined in the applicable administrative regulation, irrespective of a change in emission rate.
- (146) "Nitrogen oxides" means all oxides of nitrogen except nitrous oxide, as measured by test methods specified in the Kentucky SIP.
- (147) "ng" means nanograms.
- (148) "NO" means nitric oxide.
- (149) "NO₂" means nitrogen dioxide.
- (150) "Nonattainment major new source review program" or "NSR program" is defined by 40 C.F.R. 51.165(a)(1)(xxx). For purposes of this definition, "administrator" means the U.S. EPA.
- (151) "NO_x" means nitrogen oxides.
- (152) "NO_x allowance" is defined by 40 C.F.R. 96.2.
- (153) "NO_x Allowance Tracking System" or "NATS" is defined by 40 C.F.R. 96.2 For purposes of this definition, "administrator" means the U.S. EPA.
- (154) "NO_x authorized account representative" is defined by 40 C.F.R. 96.2.
- (155) "NO_x budget emissions limitation" means, for a NO_x budget unit, the tonnage equivalent of the NO_x allowances available for compliance deduction for the unit and for a control period under 401 KAR 51:160 adjusted by deductions of sufficient NO_x allowances to account for:
- (a) Actual utilization under 40 C.F.R. 96.42(e) for the control period;
 - (b) Excess NO_x emissions for a prior control period under 40 C.F.R. 96.54(d);
 - (c) Withdrawal from the NO_x budget program under 40 C.F.R. 96.86; or
 - (d) A change in regulatory status for a NO_x budget opt-in source under 40 C.F.R. 96.87.
- (156) "NO_x budget opt-in source" means an affected facility that has elected to become a NO_x budget unit under the NO_x Budget Trading Program and whose NO_x budget opt-in permit has been issued and is in effect.
- (157) "NO_x budget source" is defined by 40 C.F.R. 96.2.
- (158) "NO_x Budget Trading Program" is defined by 40 C.F.R. 96.2.
- (159) "NO_x budget unit" means a unit that is subject to the NO_x Budget Trading Program emissions limitation under 401 KAR 51:160 or 40 C.F.R. 96.80.
- (160) "NO_x budget unit operator" means a person who operates, controls, or supervises a NO_x budget unit, a NO_x budget source, or a unit for which an application for a NO_x budget opt-in permit under 401 KAR 51:195 is submitted and not denied or withdrawn and includes a holding company, utility system, or plant manager of a NO_x budget unit or source.
- (161) "NO_x budget unit owner" means:
- (a) A holder of a portion of the legal or equitable title in a NO_x budget unit or in a unit for which an application for a NO_x budget opt-in permit under 401 KAR 51:195 is submitted and not denied or withdrawn;
 - (b) A holder of a leasehold interest in a NO_x budget unit or in a unit for which an application for a NO_x budget opt-in permit under 401 KAR 51:195 is submitted and not denied or withdrawn;

(c) A purchaser of power from a NOx budget unit or from a unit for which an application for a NOx budget opt-in permit under 401 KAR 51:195 is submitted and not denied or withdrawn under a life-of-the-unit, firm power contractual arrangement and unless expressly provided for in a leasehold agreement, does not include a passive lessor, or a person who has an equitable interest through the lessor, whose rental payments are not based, either directly or indirectly, upon the revenues or income from the NOx budget unit or the unit for which an application for a NOx budget opt-in permit under 401 KAR 51:195 is submitted and not denied or withdrawn; or

(d) For any general account, a person who has an ownership interest with respect to the NOx allowances held in the general account and who is subject to the binding agreement for the NOx authorized account representative to represent that person's ownership.

(162) "O₂" means oxygen.

(163) "O₃" means ozone.

(164) "Opacity" means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

(165) "Operating" means, for a NOx budget unit, having documented heat input for more than 876 hours in the six (6) months immediately preceding the submission of an application for an initial NOx budget permit.

(166) "Operator" means, for a NOx budget unit, any person who operates, controls, or supervises a NOx budget unit, a NOx budget source, or unit for which an application for a NOx budget opt-in permit is submitted and not denied or withdrawn, and includes any holding company, utility system, or plant manager of the unit or source.

(167) "Opt-in" means to be elected to become a NOx budget unit under the NOx Budget Trading Program through a final NOx budget opt-in permit.

(168) "Owner", for a NOx budget unit, is defined by 40 C.F.R. 96.2.

(169) "Owner or operator" means a person who owns, leases, operates, controls, or supervises an affected facility or a source of which an affected facility is a part.

(170) "oz" means ounce.

(171) "Ozone depleting potential" or "ODP", means pursuant to 40 C.F.R. Part 82, Subpart A, Appendices A and B, the ratio of the total amount of ozone destroyed by a fixed amount of an ozone depleting substance to the amount of ozone destroyed by the same mass of trichlorofluoromethane (CFC-11) in which the ozone depleting potential of CFC-11 is equal to one and zero-tenths (1.0).

(172) "Ozone depleting substance" or "ODS" means any chemical compound regulated under 40 C.F.R. Part 82 with decay products, after the photolysis of the ODS by short-wave ultraviolet light, that are able to catalyze the destruction of stratospheric ozone.

(173) "PAL effective date" means:

(a) The date of issuance of the PAL permit; or

(b) For an increased PAL, the date any emissions unit that is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.

(174) "PAL effective period" means the period beginning with the PAL effective date and ending ten (10) years later.

(175) "PAL major modification" means any physical change in or a change in the method of operation of the PAL source that causes it to emit the PAL pollutant at a level equal to or greater than the PAL.

(176) "PAL permit" means the permit issued by the cabinet that establishes a PAL for a major stationary source.

(177) "PAL pollutant" means the pollutant for which a PAL is established at a major stationary source.

(178) "Particulate matter" means a material, except uncombined water that exists in a finely divided form as a liquid or solid measured by a U.S. EPA-approved test method or a test method approved in the Kentucky SIP.

(179) "Particulate matter emissions" means, except as used in 40 C.F.R. Part 60, all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by applicable reference methods, or an equivalent or alternative method specified in 40 C.F.R. Chapter I, or by a test method specified in the Kentucky SIP.

(180) "Peak load" means the maximum instantaneous operating load.

(181) "Permitted capacity factor" means the annual permitted fuel use divided by the manufacturer's specified maximum fuel consumption multiplied by 8,760 hours per year.

(182) "Person" is defined by KRS 224.1-010(16).

(183) "Plant-wide applicability limitation" or "PAL" means an emission limitation, expressed in tons per year, for a pollutant at a major stationary source, that is enforceable as a practical matter and is established source-wide in accordance with 401 KAR 51:017 or 51:052.

(184) "PM_{2.5}" means particulate matter with an aerodynamic diameter less than or equal to a nominal two and five-tenths (2.5) micrometers as measured by a reference method in 40 C.F.R. Part 50, Appendix L, and designated in accordance with 40 C.F.R. Part 53, or by an equivalent method designated in accordance with 40 C.F.R. Part 53.

(185) "PM₁₀" means particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers as measured by a reference method in 40 C.F.R. Part 50, Appendix J, and designated in accordance with 40 C.F.R. Part 53, or by an equivalent method designated in accordance with 40 C.F.R. Part 53.

(186) "PM₁₀ emissions" means finely divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers emitted to the ambient air as measured by an applicable reference method, or an equivalent or alternative method specified in 40 C.F.R. Chapter I, or by a test method specified in the Kentucky SIP.

(187) "Pollution prevention" is defined by 40 C.F.R. 51.166(b)(38).

(188) "Portland cement" means a hydraulic cement produced by pulverizing clinker consisting essentially of hydraulic calcium silicates.

(189) "Portland cement kiln" means a system, including solid, gaseous or liquid fuel combustion equipment, used to calcite and fuse raw materials, including limestone and clay, to produce Portland cement clinker.

(190) "Potential to emit" or "PTE" means:

(a) The maximum capacity of a stationary source to emit a pollutant under its physical and operational design, in which:

1. A physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, is treated as part of its design if the limitation is enforceable as a practical matter; and
2. This definition does not alter or affect the use of this term for other purposes of the Clean Air Act, 42 U.S.C. 7401 - 7671q, or the term "capacity factor" as used in the Acid Rain Program.

(b) For the PSD and NSR programs, the maximum capacity of a stationary source to emit a pollutant under its physical or operational design, in which:

1. A physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, is treated as part of its design if the limitation or the effect it would have on emissions:
 - a. Is federally enforceable; or

- b. For an actual PAL, is federally enforceable or enforceable as a practical matter;
and
- 2. Secondary emissions are not counted.
- (191) "ppb" means parts per billion.
- (192) "ppm" means parts per million.
- (193) "ppm(w/w)" means parts per million (weight by weight).
- (194) "Precalciner kiln" means a kiln in which the feed to the kiln system is preheated in cyclone chambers and utilizes a second burner to calcine material in a separate vessel attached to the preheater prior to the final fusion in a kiln that forms clinker.
- (195) "Predictive emissions monitoring system" or "PEMS" is defined by 40 C.F.R. 51.166(b)(44).
- (196) "Preheater kiln" means a kiln in which the feed to the kiln system is preheated in cyclone chambers prior to the final fusion in a kiln that forms clinker.
- (197) "Prevention of Significant Deterioration Program" or "PSD Program" means a major source preconstruction program that has been approved by the U.S. EPA and incorporated into the Kentucky SIP to implement the requirements of 40 C.F.R. 51.166 or 52.21.
- (198) "Project" means a physical change in or change in method of operation of an existing major stationary source.
- (199) "Projected actual emissions" means:
 - (a) The maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one (1) of the five (5) years, in a twelve (12) month period, following the date the unit resumes regular operation after the project, or in any one (1) of the ten (10) years following that date, if:
 - 1. The project involves increasing the emissions unit's design capacity or its potential to emit the regulated NSR pollutant; and
 - 2. Full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source; or
 - (b) The maximum annual rate, in tons per year, at which an emissions unit, before beginning actual construction, is projected to emit a regulated NSR pollutant, if the source:
 - 1.
 - a. Considers all relevant information, including historical operational data and the company's own representations of expected and highest projected business activity, filings with the cabinet and the U.S. EPA, and compliance plans under the Kentucky SIP;
 - b. Includes fugitive emissions and emissions associated with startups, shutdowns, and malfunctions; and
 - c. Excludes, in calculating any increase in emissions that results from a project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive twenty-four (24) month period used to establish the baseline actual emissions and that are also unrelated to the project, including any increased utilization due to product demand growth; or
 - 2. Elects to use the emissions unit's potential to emit, in tons per year, instead of using subparagraph 1. of this paragraph to determine projected actual emissions.
- (200) "psia" means pounds per square inch absolute.
- (201) "psig" means pounds per square inch gage.
- (202) "RACT/BACT/LAER Clearinghouse" or "RBLC" means the U.S. EPA's online collection of previous RACT/BACT/LAER determinations.
- (203) "Reactivation of a very clean coal-fired EUSGU" is defined by 40 C.F.R. 51.166(b)(37).

(204) "Reasonable further progress" is defined by 42 U.S.C. 7501(1). For purposes of this definition, "administrator" means the U.S. EPA.

(205) "Reconstruction" means the replacement of components of an existing affected facility to the extent that:

(a) The fixed capital cost of the new components exceeds fifty (50) percent of the fixed capital cost that would be required to construct a comparable entirely new affected facility; and

(b) It is technologically and economically feasible to meet the applicable requirements of 401 KAR Chapters 50 to 65.

(206) "Reference method" means a method of sampling and analyzing for an air pollutant as published in 40 C.F.R. Part 50, Appendices A to N; 40 C.F.R. Part 53; 40 Part 60, Appendices A and B; 40 C.F.R. Part 61, Appendix B; or 40 C.F.R. Part 63, Appendices A to D.

(207) "Regulated NSR pollutant" means:

(a) For 401 KAR 51:017:

1. A pollutant for which a national ambient air quality standard has been promulgated and the following constituents or precursors to that pollutant:

a. Volatile organic compounds and nitrogen oxides are precursors to ozone in all attainment and unclassifiable areas;

b. Sulfur dioxide is a precursor to PM_{2.5} in all attainment and unclassifiable areas;

c. Nitrogen oxides are presumed to be precursors to PM_{2.5} in all attainment and unclassifiable areas unless the Cabinet demonstrates to the EPA administrator's satisfaction or EPA demonstrates that emissions of nitrogen oxides from sources in a specific area are not a significant contributor to that area's ambient PM_{2.5} concentrations;

d. Volatile organic compounds are presumed not to be precursors to PM_{2.5} in an attainment or unclassifiable area unless the Cabinet demonstrates to the EPA administrator's satisfaction or EPA demonstrates that emissions of volatile organic compounds from sources in a specific area are a significant contributor to that area's ambient PM_{2.5} concentrations; and

e. PM_{2.5} emissions and PM₁₀ emissions include gaseous emissions from a source or activity that condense to form particulate matter at ambient temperatures;

(i) On or after January 1, 2011, condensable particulate matter is included in applicability determinations and in establishing emissions limitations for PM_{2.5} and PM₁₀ in permits issued pursuant to 401 KAR 51:017;

(ii) Compliance with emissions limitations for PM_{2.5} and PM₁₀ issued prior to January 1, 2011, is not based on condensable particulate matter unless required by the terms and conditions of a permit; and

(iii) Applicability determinations made prior to January 1, 2011, without accounting for condensable particulate matter are not considered in violation of this section;

2. A pollutant subject to a standard promulgated under 42 U.S.C. 7411;

3. A pollutant subject to a standard promulgated under or established by 42 U.S.C. 7671 to 7671q; or

4. A pollutant that otherwise is subject to regulation, as defined in subsection (231) of this section, under 42 U.S.C. 7401 to 7671q, except that any hazardous air pollutant (HAP) listed in 42 U.S.C. 7412 or added to the list pursuant to 42 U.S.C. 7412(b)(2), that has not been delisted pursuant to 42 U.S.C. 7412(b)(3), is not a regulated NSR pollutant unless the listed HAP is also regulated as a constituent or precursor of a general pollutant listed under 42 U.S.C. 7408; or

(b) For 401 KAR 51:052:

1. Nitrogen oxides or volatile organic compounds; or
2. A pollutant for which a national ambient air quality standard has been promulgated and the following constituents or precursors to that pollutant:
 - a. Volatile organic compounds and nitrogen oxides are precursors to ozone in all ozone nonattainment areas;
 - b. Sulfur dioxide is a precursor to PM_{2.5} in all PM_{2.5} nonattainment areas;
 - c. Nitrogen oxides are presumed to be precursors to PM_{2.5} in all PM_{2.5} nonattainment areas unless the Cabinet demonstrates to the EPA Administrator's satisfaction or EPA demonstrates that emissions of nitrogen oxides from sources in a specific area are not a significant contributor to that area's ambient PM_{2.5} concentrations;
 - d. Volatile organic compounds and ammonia are presumed not to be precursors to PM_{2.5} in a PM_{2.5} nonattainment area unless the Cabinet demonstrates to the EPA Administrator's satisfaction or EPA demonstrates that emissions of volatile organic compounds or ammonia from sources in a specific area are a significant contributor to that area's ambient PM_{2.5} concentrations; and
 - e. PM_{2.5} emissions and PM₁₀ emissions include gaseous emissions from a source or activity that condense to form particulate matter at ambient temperatures;
 - (i) On or after January 1, 2011, condensable particulate matter is included in applicability determinations and in establishing emissions limitations for PM_{2.5} and PM₁₀ in permits issued pursuant to 401 KAR 51:052;
 - (ii) Compliance with emissions limitations for PM_{2.5} and PM₁₀ issued prior to January 1, 2011, is not based on condensable particulate matter unless required by the terms and conditions of a permit; and
 - (iii) Applicability determinations made prior to January 1, 2011, without accounting for condensable particulate matter are not considered in violation of this section.

(208) "Replacement unit" means an emissions unit that does not generate creditable emissions reductions by shutting down the existing emissions unit that is replaced, and that:

(a)

1. Is a reconstructed unit within the meaning of 40 C.F.R. 60.15(b)(1) or that completely takes the place of an existing emissions unit;
2. Is identical to or functionally equivalent to the replaced emissions unit; and
3. Does not alter the basic design parameters of the process unit.

(b) Replaces a unit that:

1. Is permanently removed from the major stationary source, is otherwise permanently disabled, or is prohibited from operating by a permit that is enforceable as a practical matter; and
2. If brought back into operation, is considered a new emissions unit.

(209) "Repowering" is defined by 40 C.F.R. 51.166(b)(36).

(210) "Responsible official" means:

- (a) For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of that person if the representative is responsible for the overall operation of one (1) or more manufacturing, production, or operating facilities applying for or subject to a permit; and

1. The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25,000,000 in second quarter 1980 dollars; or
 2. The delegation of authority to the representative is approved in advance by the cabinet pursuant to this subsection;
- (b) For a partnership or sole proprietorship, a general partner or the proprietor, respectively;
- (c) For a municipality, state, federal, or other public agency, a principal executive officer or ranking elected official. The principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operation of a principal geographic unit of the agency; or
- (d) For the acid rain portion of a permit for an affected source, the designated representative.
- (211) "Run" means the net period of time, either intermittent or continuous within the limits of good engineering practice, when an emission sample is collected.
- (212) "S" means at standard conditions.
- (213) "sec" means second.
- (214) "Secondary emissions" means emissions that:
- (a) Occur as a result of the construction or operation of a major stationary source or major modification, and do not come from the major stationary source or major modification itself;
 - (b) Are specific, well defined, quantifiable, and impact the same general area as the stationary source modification that causes the secondary emissions;
 - (c) Include emissions from an offsite support facility that would not otherwise be constructed or increase its emissions as a result of the construction or operation of the major stationary source or major modification; and
 - (d) Do not include emissions that come directly from a mobile source, including emissions from the tailpipe of a motor vehicle, a train, or vessel.
- (215) "Serious nonattainment county" or "serious nonattainment area" means a county or portion of a county designated serious nonattainment for the national ambient air quality standard for ozone.
- (216) "Severe nonattainment county" or "severe nonattainment area" means a county or portion of a county designated severe nonattainment for the national ambient air quality standard for ozone.
- (217) "Shutdown" means the cessation of an operation.
- (218) "Significant" means:
- (a) For 401 KAR 51:017, in reference to a net emissions increase or the potential of a source to emit any of the pollutants listed in the following table, a rate of emissions that would equal or exceed a corresponding rate listed in the table:

POLLUTANT	EMISSIONS RATE
Carbon monoxide	100 tons per year (tpy)
Ozone depleting substance	100 tpy
Nitrogen oxides	40 tpy
Sulfur dioxide	40 tpy
PM _{2.5}	10 tpy direct, 40 tpy of sulfur dioxide or nitrogen oxides *
PM ₁₀	15 tpy
Particulate matter	25 tpy

Ozone	40 tpy of volatile organic compounds or nitrogen oxides
Lead	0.6 tpy
Fluorides	3 tpy
Sulfuric acid mist	7 tpy
Hydrogen sulfide (H ₂ S)	10 tpy
Total reduced sulfur (including H ₂ S)	10 tpy
Reduced sulfur compounds (including H ₂ S)	10 tpy
Municipal waste combustor organics (measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)	3.2 x 10 ⁻⁶ megagrams per year (Mg/y) (3.5 x 10 ⁻⁶ tpy)
Municipal waste combustor metals (measured as particulate matter)	14 Mg/y (15 tpy)
Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride)	36 Mg/y (40 tpy)
Municipal solid waste landfill emissions (measured as nonmethane organic compounds)	45 Mg/y (50 tpy)
*Nitrogen oxide emissions are evaluated unless demonstrated not to be a PM _{2.5} precursor pursuant to subsection (207)(a)1.c. of this section.	

(b) For 401 KAR 51:017, in reference to a net emissions increase or the potential of a source to emit a regulated NSR pollutant that is not listed in the table in paragraph (a) of this subsection, any emissions rate;

(c) For 401 KAR 51:017, in reference to an emissions rate or a net emissions increase associated with a major stationary source or major modification, that is to be constructed within ten (10) kilometers of a Class I area, an impact on that area equal to or greater than one (1) µg/m³ over a twenty-four (24) hour average;

(d) For 401 KAR 51:052, in reference to a net emissions increase or the potential of a source to emit any of the pollutants listed in the following table, a rate of emissions that would equal or exceed a corresponding rate listed in the table:

POLLUTANT	EMISSIONS RATE
Carbon monoxide	100 tons per year (tpy)
Ozone depleting substance	100 tpy
Nitrogen oxides	40 tpy
Sulfur dioxide	40 tpy
PM _{2.5}	10 tpy direct, 40 tpy of sulfur dioxide or nitrogen oxides *
PM ₁₀	15 tpy
Ozone	40 tpy of volatile organic compounds or nitrogen oxides
Lead	0.6 tpy

*Nitrogen oxide emissions are evaluated unless demonstrated not to be a PM_{2.5} precursor pursuant to subsection (207)(b)2.c. of this section.

(e) For 401 KAR 51:052, with the exception of the significant emissions rate for ozone in this subsection, significant means, in reference to an emissions increase or net emissions increase, a rate of emissions that exceeds the following:

1. Twenty-five (25) tons per year of volatile organic compounds or nitrogen oxides in a serious or severe ozone nonattainment area; or
2. An increase in actual emissions of volatile organic compounds or nitrogen oxides in an extreme ozone nonattainment area; or

(f) For 401 KAR 51:052, with the exception of the significant emissions rate for carbon monoxide in this subsection, significant means, in reference to an emissions increase or net emissions increase, a rate of emissions of carbon monoxide that equals or exceeds fifty (50) tons per year in a serious nonattainment area for carbon monoxide in which a stationary source contribute significantly to carbon monoxide levels.

(219) "Significant emissions increase" means, for a regulated NSR pollutant, an increase in emissions that is equal to or greater than the emission level that is significant for that pollutant.

(220) "Significant emissions unit" means an emissions unit that emits or has the potential to emit a PAL pollutant in an amount equal to or greater than the applicable significant level as defined in subsection (218) of this section or in 42 U.S.C. 7401 to 7671q, whichever is lower for that PAL pollutant, but less than the amount that would qualify the unit as a major emissions unit.

(221) "Small emissions unit" means an emissions unit that emits or has the potential to emit the PAL pollutant in an amount less than the PAL pollutant's applicable significant level as defined in subsection (218) of this section; or in 42 U.S.C. 7401 to 7671q, whichever is lower.

(222) "SO₂" means sulfur dioxide.

(223) "Source" means one (1) or more affected facilities contained within a given contiguous property line, which means the property is separated only by a public thoroughfare, stream, or other right of way.

(224) "sq" means square.

(225) "Stack or chimney" means a flue, conduit, or duct arranged to conduct emissions to the atmosphere.

(226) "Standard" means an emission standard, a standard of performance, or an ambient air quality standard as promulgated in 401 KAR Chapters 50 to 65 or the emission control requirements necessary to comply with 401 KAR Chapter 51.

(227) "Standard conditions" means:

- (a) For source measurements, twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit) and a pressure of 760 mm Hg (29.92 in. of Hg); or
- (b) For air quality determinations, twenty-five (25) degrees Celsius (seventy-seven (77) degrees Fahrenheit) and a reference pressure of 760 mm Hg (29.92 in. of Hg).

(228) "Start-up" or "startup" means the setting in operation of an affected facility.

(229) "State implementation plan" or "SIP" means the most recently prepared plan or revision required by 42 U.S.C. 7410 that has been approved by the U.S. EPA.

(230) "Stationary source" means a building, structure, facility, or installation that emits or has the potential to emit a regulated NSR pollutant.

(231) "Subject to regulation" is defined by 40 C.F.R. 51.166(b)(48).

(232) "Submit" means to send or transmit a document, information, or correspondence in accordance with an applicable requirement.

(233) "TAPPI" means Technical Association of the Pulp and Paper Industry.

(234) "Temporary clean coal technology demonstration project" is defined by 40 C.F.R. 51.166(b)(35).

(235) "Ton" or "tonnage", for a NO_x budget source, means a short ton or 2,000 pounds. For determining compliance with the NO_x budget emissions limitation, total tons for a control period is calculated as the sum of all recorded hourly emissions, or the tonnage equivalent of the recorded hourly emissions rates, in accordance with 40 C.F.R. Part 96, Subpart H with any remaining fraction of a ton equal to or greater than 0.50 ton deemed to equal one (1) ton and any fraction of a ton less than 0.50 ton deemed to equal zero tons.

(236) "Total suspended particulates" or "TSP" means particulate matter as measured by the method described in 40 C.F.R. Part 50, Appendix B.

(237) "tpy" means tons per year.

(238) "TSS" means total suspended solids.

(239) "Uncombined water" means water that can be separated from a compound by ordinary physical means and that is not bound to a compound by internal molecular forces.

(240) "Unit" means a fossil fuel-fired stationary boiler, combustion turbine, or combined cycle system.

(241) "Urban county" means a county that is a part of an urbanized area with a population greater than 200,000 based upon the 1980 census. If a portion of a county is a part of an urbanized area, then the entire county is classified as urban for 401 KAR Chapters 50 to 65.

(242) "Urbanized area" means an area defined by the U.S. Department of Commerce, Bureau of Census.

(243) "U.S. EPA" means the United States Environmental Protection Agency.

(244) "UTM" means Universal Transverse Mercator.

(245) "Visibility impairment" is defined by 40 C.F.R. 51.301.

(246) "Volatile organic compound" or "VOC" is defined by 40 C.F.R. 51.100(s).

(247) "yd" means yard.

Section 2. Incorporation by Reference.

(1) The following material is incorporated by reference:

(a) "North American Industry Classification System", 2007, as published by the Office of Management and Budget; and

(b) "Standard Industrial Classification Manual", 1987, as published by the Office of Management and Budget.

(2) This material may be inspected, copied or obtained, subject to applicable copyright law, at the following main and regional offices of the Kentucky Division for Air Quality during the normal working hours of 8 a.m. to 4:30 p.m., local time:

(a) Kentucky Division for Air Quality, 300 Sower Boulevard, Frankfort Kentucky 40601, (502) 564-3999;

(b) Ashland Regional Office, 1550 Wolohan Drive, Suite 1, Ashland, Kentucky 41102, (606) 929-5285;

(c) Bowling Green Regional Office, 1508 Westen Avenue, Bowling Green, Kentucky 42104, (270) 746-7475;

(d) Florence Regional Office, 8020 Veterans Memorial Drive, Suite 110, Florence, Kentucky 41042, (859) 525-4923;

(e) Frankfort Regional Office, 300 Sower Boulevard, Frankfort Kentucky 40601, (502) 564-3358;

(f) Hazard Regional Office, 233 Birch Street, Suite 2, Hazard, Kentucky 41701, (606) 435-6022;

(g) London Regional Office, 875 S. Main Street, London, Kentucky 40741, (606) 330-2080;

(h) Owensboro Regional Office, 3032 Alvey Park Drive, W., Suite 700, Owensboro, Kentucky 42303, (270) 687-7304; and

(i) Paducah Regional Office, 130 Eagle Nest Drive, Paducah, Kentucky 42003, (270) 898-8468.

(3) The Standard Industrial Classification Manual is also available under Order No. PB 87-100012 from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161, phone (703) 487-4650.

(401 KAR 051:001. 18 Ky.R. 2737; 2930; 3335; eff. 6-24-1992; 21 Ky.R. 1757; 2137; eff. 4-6-1995; 22 Ky.R. 1691; 2014; eff. 6-6-1996; 25 Ky.R. 1442; eff. 4-14-1999; 27 Ky.R. 2557; 3270; 38 Ky.R. 367; eff. 8-15-2001; 29 Ky.R. 538; 1600; eff. 12-18-2002; 30 Ky.R. 2176; 2487; 31 Ky.R. 34; eff. 7-14-2004; 33 Ky.R. 197; eff. 11-8-2006; 36 Ky.R. 867; 1247; 1462; eff. 2-5-2010; 37 Ky.R. 452; 1222; eff. 1-3-2011; 39 Ky.R. 113; 783; 971; eff. 12-7-2012; TAm eff. 9-16-2013; TAm eff. 7-8-2016; Crt eff. 7-30-2018; TAm eff. 3-7-2025; Crt eff. 6-12-2025.)

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