

**METROPOLITAN HEALTH DEPARTMENT
BUREAU OF POLLUTION CONTROL**

Regulation No. 3

NEW SOURCE REVIEW

SECTION 3-1: Definitions

As used in this regulation, all terms not defined herein shall have the meaning given them in Chapter 10.56, "Air Pollution Control," Section 10.56.010, "Definitions," of the Metropolitan Code of Law.

- (a) **Actual Emissions** - means the actual rate of emissions of a pollutant from an emissions unit as determined below:
- (1) Actual emissions shall equal the average rate, in tons per year, at which the facility actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal operation. The Director may use a different time period upon determining that it is more representative of normal operation. Actual emissions shall be calculated using the facility's actual operating hours, production rates, and type of materials processes, stored, or combusted during the selected time period.
 - (2) The Director may presume that the source-specific allowable emissions for the facility are equivalent to the actual emissions of the facility; or
 - (3) For any facility which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit.
- (b) **Allowable Emissions** - Emission rate calculated by using the maximum rated capacity of the source (unless the source is subject to either enforceable permit conditions which limit the operating rate or hours of operation, or both) and the most stringent of the following:
- (1) The applicable State Implementation Plan Emission Limitation, or
 - (2) The emission rate specified as a permit condition.
- (c) **Attainment Area** - Any area which has met the National Ambient Air Quality Standard for such pollutant.

- (d) **Baseline Concentration** - Means that the ambient concentration level which exists in the baseline area at the time of the applicable minor source baseline date. A baseline concentration is determined for each pollutant for which a minor source baseline date is established and shall include:
- (1) The actual emissions representative of sources in existence on the applicable minor source baseline date, except actual emissions from any major stationary source on which construction commenced after the major source baseline date; and actual emissions increases and decreases at any stationary source occurring after the minor source baseline date;
 - (2) The allowable emissions of major stationary sources which commenced construction before the major source baseline date but were not in operation by the applicable minor source baseline date.
- (e) **Baseline Date**
- (1) Major source baseline date for particulate matter and sulfur dioxide is January 6, 1975, and for nitrogen dioxide is February 8, 1988.
 - (2) Minor source baseline date means the earliest date after the trigger date on which a major stationary source or a major modification submits a completed PSD application. The minor source baseline date for particulate matter is October 2, 1978, and sulfur dioxide is November 11, 1978. The trigger date for nitrogen dioxide is February 8, 1988.
- (f) **Begin Construction** - Means, in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying underground pipework and construction of permanent storage structures. With respect to a change in method of operations, this term refers to those on-site activities other than preparatory activities which mark the initiation of the change.
- (g) **Best Available Control Technology (BACT)** - An emission rate based on the maximum degree of reduction, taking into account energy, environmental and economic impacts, and other costs. In no event shall application of BACT result in emissions of any pollutant which will exceed the emission allowed by the New Source Performance Standards or national emission standards for hazardous pollutants. If it is determined that technological or economic limitations on the application of measurement methodology to a particular emission unit would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed to satisfy the requirement for the application of best available control technology.
- (h) **Building, Structure, or Facility** - Means all of the pollutant-emitting activities which

belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant- emitting activities shall be considered as part of the same industrial grouping if they belong to the same "Major Group" (i.e., described by the first two digits in the code which is specified in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 4101-0066 and 003- 005-00176-0, respectively).

- (i) **Commenced** - Means that an owner or operator has all necessary preconstruction approvals or permits and 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 entered into a binding obligation, which cannot be canceled or modified without substantial loss to the owner or operator.
- (j) **Construction** - Means any physical change or change in the method of operation (including fabrication, erection, installation, or modification of an emission unit) which would result in a change in actual emissions.
- (k) **Dispersion Technique** - Means any technique which attempts to affect the concentration of a pollutant in the ambient air by:
 - (1) (i) Using that portion of a stack which exceeds good engineering practice stack height;
 - (ii) Varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant; or
 - (iii) Increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, stack parameters, or combining exhaust gases from several existing stacks into one stack or other selective handling of exhaust gas streams so as to increase the exhaust gas plume rise.
 - (2) The preceding sentence does not include:
 - (i) The reheating of a gas stream, following use of a pollution control system, for the purpose of returning the gas to the temperature at which it was originally discharged from the facility generating the gas stream;
 - (ii) The merging of exhaust gas streams where:
 - (A) The source owner or operator demonstrates that the facility was originally designed and constructed with such merged gas streams;
 - (B) After July 8, 1985, such merging is part of a change in operation at the facility that includes the installation of pollution controls and is accompanied by a net reduction in the allowable emissions of a

pollutant. This exclusion from the definition of "dispersion techniques" shall apply only to the emission limitation for the pollutant affected by such change in operation; or

- (C) Before July 8, 1985, such merging was part of a change in operation at the facility that included the installation of emissions control equipment or was carried out for sound economic or engineering reasons. Where there was an increase in the emission limitation or, in the event that no emission limitation was in existence prior to the merging, an increase in the quantity of pollutants actually emitted prior to the merging was significantly motivated by an intent to gain emissions credit for greater dispersion. Absent a demonstration by the source owner or operator that merging was not significantly motivated by such intent, the reviewing agency shall deny credit for the effects of such merging in calculating the allowable emissions for the source;
 - (iii) Smoke management in agricultural or silvicultural prescribed burning programs,
 - (iv) Episodic restrictions on residential woodburning and open burning; or
 - (v) Techniques under (1)(iii) which increase final exhaust gas plume rise where the resulting allowable emissions of sulfur dioxide from the facility do not exceed 5,000 tons per year.
- (l) **Emission Offset** - A trade-off of a greater than one-to-one offset of actual emissions from an existing stationary source.
 - (m) **Emissions Unit** - Means any part of a stationary source which emits or would have the potential to emit any pollutant subject to regulation under the Clean Air Act.
 - (n) **Excessive Concentration** - Is defined for purpose of determining good engineering practice stack height under Paragraph (q)(3):
 - (1) For sources seeking credit for stack height exceeding that established under Paragraph (q)(2), a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, or eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentrations experienced in the absence of such downwash, wakes, or eddy effects and which contributes to a total concentration due to emissions from all sources that is greater than an ambient air quality standard. For sources subject to Section 3-3, "Prevention of Significant Deterioration (PSD) Review," an excessive concentration alternatively means a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, or eddy effects produced by nearby structures or

nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and greater than a prevention of significant deterioration increment. The allowable emission rate to be used in making demonstrations under this Regulation shall be prescribed by the new source performance standard that is applicable to the source category unless the owner or operator demonstrates this emission rate to be infeasible. Where such demonstrations are approved by the Director, an alternative emission rate shall be established in consultation with the source owner or operator.

- (2) For sources seeking credit after October 11, 1983, for increases in existing stack heights up to the heights established under Paragraph (q)(2), either (i) a maximum ground-level concentration due in whole or part to downwash, wakes, or eddy effects as provided in Paragraph (n)(1) of this Section, except that the emission rate specified by an applicable State Implementation Plan (or in the absence of such a limit the actual emission rate) shall be used, or (ii) the actual presence of a local nuisance caused by the existing stack as determined by the authority administering the State Implementation Plan: and
 - (3) For sources seeking credit after January 12, 1979, for a stack height determined under Paragraph (q)(2) where the authority administering the State Implementation Plan requires the use of a field study or fluid model to verify GEP stack height, for sources seeking stack height credit after November 9, 1984, based on the aerodynamic influence of cooling towers and for sources seeking stack height credit after December 31, 1970, based on the aerodynamic influence of structures not adequately represented by the equations in Paragraph (q)(2), a maximum ground-level concentration due in whole or in part to downwash, wakes, or eddy effects that is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects.
- (o) **Fixed Capital Cost** - Means the capital needed to provide all the depreciable components.
 - (p) **Fugitive Emissions** - Means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.
 - (q) **Good Engineering Practice** - means, in respect to stacks, a stack height necessary to insure that emissions do not result in excessive concentrations of any air contaminant in the vicinity of the source as a result of atmospheric downwash, wakes, or eddies, which may be created by the source itself, nearby structures, or nearby terrain obstacles. The maximum stack height to be used in ambient air quality modeling for the purpose of new source review or establishing an emission limitation shall not exceed the greater of:

- (1) 65 meters measured from the ground-level at the base of the stack; or
- (2) (i) For stacks in existence on January 12, 1979, and for which the owner or operator had obtained all applicable permits or approvals required under Chapter Four, Subchapter One, Section 4-1-16, "Registration and Permits" or the Metropolitan Code of Law,

$$H_g = 2.5H$$

provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation;

- (ii) for all other stacks,

$$H_g = H + 1.5L,$$

where:

H_g = good engineering practice height, measured from the ground-level elevation at the base of the stack,

H = height of nearby structure(s) measured from the ground-level elevation at the base of the stack,

L = lesser dimension, height or projected width, or nearby structure(s)

provided that the Director or EPA may require the use of a field study or fluid model to verify Good Engineering Practice Stack Height for the sources, or

- (3) The height demonstrated by a fluid model or a field study approved by EPA or the Director, which insures that the emissions from a stack do not result in excess concentrations of any air contaminant as a result of atmospheric downwash, wakes, or eddies created by the source itself, nearby structures, or nearby terrain obstacles.
- (r) **Installation** - Means an identifiable piece of equipment.
- (s) **Legally Enforceable** - means all limitations and conditions which are enforceable by the Director and Administrator, which includes all provisions of Chapter 10.56 "Air Pollution Control" of the Metropolitan Code of Law, this Regulation, any provisions of the State

Implementation Plan, and any permit conditions.”

- (t) **Lowest Achievable Emission Rate (LAER)** - Means, for any source, the more stringent rate of emissions based on the following:
- (1) The most stringent emissions limitation which is contained in the implementation plan of any state for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or
 - (2) The most stringent emissions limitation which is achieved in practice by such class or category of stationary sources. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of the term permit a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.
- (u) **Major Modification** - Means any physical change in method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulations under The Clean Air Act. Any net emissions increase that is considered significant for VOC shall be considered significant for ozone.

A physical change or change in the method of operation shall not include;

- (1) Routine maintenance, repair, and replacement;
 - (2) Use of an alternative fuel or raw material by reason of an order under sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act.
 - (3) Use of an alternative fuel by reason of an order or rule under section 125 of the Act;
 - (4) An increase in the hours of operation or in the production rate, unless such change is prohibited by an enforceable permit condition;
 - (5) Any changes in ownership at a stationary source.
- (v) **Major Stationary Source**
- (1) any stationary source having the potential to emit 100 tons/year or more of any pollutant regulated under The Clean Air Act, or
 - (2) any stationary source having an allowable emission (based on BACT) of more

than the following for a specific pollutant:

Sulfur Dioxide, Carbon Monoxide, and Volatile Organic Compounds (Any stationary source that is major for VOC shall be considered major for ozone)

40 tons/year
1,000 lbs/day or
100 lbs/hour

Particulate:

25 tons/year
1,000 lbs/day
100 lbs/hour

- (3) any physical change or change in the method of operation of a stationary source not qualifying as a major modification if the change would constitute a major stationary source by itself.
- (w) **Minor Stationary Source** - Any stationary source that is not a major stationary source and is required to obtain a Construction Permit, in accordance with the provisions of Section 4-1-16, "Registration and Permits," of the Metropolitan Code of Law.
- (Note: There is a "discrepancy" in the codification between the Federal SIP and the Nashville regulations prior to this item. At this point, the two will be correlated with "(y)" used for the next definition.....kcb...8/25/97)*
- (x) **Municipal solid waste (MSW) landfill emissions** - means gas generated by the decomposition of organic waste deposited in a municipal solid waste landfill or derived from the evolution of organic compounds in the waste.
- (y) **Nearby** - As used in Paragraph (q) is defined for a specific structure or terrain:
- (1) for purposes of applying the formulae provided in paragraph (q)(2) means that distance up to five times the lesser of the height or the width dimension of a structure but not greater than 0.8 km (0.5 mile), and
 - (2) for conducting demonstrations under paragraph (q)(3) means not greater than 0.8 km (0.5 mile), except that the portion of a terrain feature may be considered to be nearby which falls within a distance of up to 10 times the maximum height of the feature, not to exceed 3.2 km (2 miles) if such feature achieves a height of 0.8 km (0.5 mile) from the stack is greater than or equal to 40 percent of the GEP stack height determined by the formulae provided in paragraph (q)(2) or 26 meters whichever is greater, as measured from the ground-level elevation at the base of the stack.

- (z) (1) **Net Emissions Increase** - Means the amount by which the sum of the following exceeds zero:
- (i) Any increase in actual emissions from a particular physical change or change in the method of operation at a stationary source; and
 - (ii) Any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable.
- (2) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between:
- (i) The date five years before construction on the particular change commences; and
 - (ii) The date that the increase from the particular change occurs.
- (3) An increase or decrease in actual emissions is creditable only if the Director has not relied on it in issuing a permit for the source under this regulation, which permit is in effect when the increase in actual emissions from the particular change occurs.
- (4) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
- (5) A decrease in actual emissions is creditable only to the extent that:
- (i) the old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions; and
 - (ii) It is legally enforceable at and after the time that actual construction on the particular change begins; and
 - (iii) It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change as determined by the Director.
- (6) An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.
- (7) An increase or decrease in actual emissions of sulfur dioxide, particulate matter or nitrogen oxides which 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.

- (aa) **Non-attainment Area** - Is a geographical area designated by the Environmental Protection Agency which is shown by monitoring data or which is calculated by air quality monitoring, or other methods determined by the Director to be reliable and approved by the Environmental Protection Agency, to exceed any national air quality standard for any pollutant.
- (bb) **Potential to Emit** - Means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any 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, shall be treated as part of its design only if the limitation or the effect it would have on emissions is legally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.
- (cc) **Reasonable Available Control Technology (RACT)** - Is the lowest emission limit that a particulate source is capable of emitting by the application of control technology that is reasonably available considering technological and economic feasibility.
- (dd) **Reasonable Further Progress** - Means such annual incremental reductions in emissions of the relevant air pollutant as are required by the Clean Air Act or may reasonably be required by the Director for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.
- (ee) **Reconstruction** - will be presumed to have taken place where the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost of a comparable entirely new stationary source. Any final decision as to whether reconstruction has occurred shall be made in accordance with the provisions of 40 CFR 60.15 (f)(1)-(3). A reconstructed stationary source will be treated as a new stationary source for purposes of this regulation.
- (ff) **Secondary Emissions** - Means emissions which would occur as a result of the construction or operation of a major stationary source or modification, but do not come from the major stationary source or major modification itself. For the purpose of this section, secondary emissions must be specific, well defined, quantifiable, and must impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not be constructed or increase its emissions except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include any emissions which come directly from a mobile source such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel. This does not exclude vessel emission which occur during loading/unloading at the facility or which are dockside emissions.

(gg) **Significant** - Means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

<u>POLLUTANT</u>	<u>EMISSIONS RATE</u>
Carbon monoxide	100 tons per year (tpy)
Nitrogen oxides	40 tpy
Sulfur dioxide	40 tpy
Particulate matter	25 tpy
Ozone	40 tpy of volatile organic compounds
Lead	0.6 tpy
Asbestos	0.007 tpy
Beryllium	0.004 tpy
Mercury	0.1 tpy
Vinyl chloride	1 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
PM ₁₀	15 tpy
MSW landfill emissions	50 tpy

- or -

- (2) Means any emissions rate or any net emissions increased which has an impact on a non- attainment area equal to greater than the following:

	Annual	24-hr	8-hr	3-hr	1-hr
PM ₁₀	1.0 ug/m ³	5 ug/m ³			
Sulfur Dioxide	1.0 ug/m ³	5 ug/m ³		25 ug/m ³	
Nitrogen Dioxide	1.0 ug/m ³				
Carbon Monoxide			0.5 mg/m ³		2 mg/m ³

- (3) For the purpose of applying the requirements of Section 3-2(b) to a major source of NO_x located in an ozone nonattainment area, the significant emission rates and other requirements for volatile organic compound in this Regulation shall apply to NO_x emissions.
- (hh) **Stationary Source** - Means any structure, building, facility, or installation which emits or may emit any air pollutant subject to regulation under the Clean Air Act.
- (ii) **Volatile Organic Compound (VOC)** - means any volatile compound as defined by Title 40, Code of Federal Regulation, Part 51, Subpart F.
- (1) This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity: Methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,1-trichloro-2,2,2-trifluoroethane (CFC-113; trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (CFC-22); trifluoromethane (FC-23); 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123); 1,1,1,2-tetrafluoroethane (HFC-134a); 1,1-dichloro 1-fluoroethane (HCFC-141b); 1-chloro 1,1-difluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); and perfluorocarbon compounds which fall into these classes:
- (i) Cyclic, branched, or linear, completely fluorinated alkanes,

- (ii) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations,
 - (iii) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations, and
 - (iv) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.
- (2) For purposes of determining compliance with emissions limits, VOC will be measured by the test methods in the approved State Implementation Plan (SIP) or 40 CFR part 60, appendix A, as applicable. Where such a method also measures compounds with negligible photochemical reactivity, these negligibility-reactive compounds may be excluded as VOC if the amount of such compounds is accurately quantified, and such exclusion is approved by the enforcement authority.
- (3) As a precondition to excluding these compounds as VOC or at any time thereafter, the enforcement authority may require and owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the enforcement authority, the amount of negligibly-reactive compounds in the source's emissions.
- (4) For purposes of Federal enforcement for a specific source, the EPA shall use the test methods specified in the applicable EPA-approved SIP, in a permit issued pursuant to a program approved or promulgated under title V of the Act, or under 40 CFR part 51, subpart I or appendix S, or under 40 CFR parts 52 or 60. The EPA shall not be bound by any State determination as to appropriate methods for testing or monitoring negligibly-reactive compounds if such determination is not reflected in any of the above provisions.
- (jj) **Baseline Area** - Means any portion of Davidson County, Tennessee designated as an attainment area in which a 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 1 ug/m³ (annual average) of the pollutant for which the minor source baseline date is established.

THIS IS THE FEDERALLY APPROVED REGULATION AS OF June 17, 1997
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SECTION 3-2: Registration and Permits

The owner or operator of any new or modified stationary source shall meet the requirements of Section 4-1-16, "Registration and Permits," Subsection (a), "Construction Permit," Chapter Four, Subchapter One, of the Metropolitan Code of Law. In addition to the requirements of Section 4-1-16, the owner or operator of any new or modified stationary source shall meet the applicable requirements of this regulation.

Irrespective of the emission limitation required in this Section and Section 3-3, the emission limitation required of any source for control of any pollutant must not be affected by so much of any source's stack height that exceeds good engineering practice on any other dispersion technique. This provision shall not apply to stack heights in existence, or dispersion techniques implemented on or before December 31, 1970, except where pollutants are being emitted from such stacks or using such dispersion techniques by sources which constructed, or reconstructed, or for which major modifications were carried out after December 31, 1970. This paragraph does not restrict, in any manner, the actual stack height of any source.

- (a) **Attainment Area** - The Director shall not grant a permit to construct for any new or modified stationary source if such construction will interfere with: the attainment or maintenance of an ambient air quality standard, operate in violation of the applicable emission standards of Chapter Four, significantly impact on the air quality in a non-attainment area, or violate the provisions of Section 3-3 of this Regulation.
- (b) **Non-attainment Area** - The Director shall not grant a permit to construct for any new or modified stationary source in a non-attainment area, nor to any stationary source that significantly impacts on a non-attainment area if such construction will interfere with reasonable further progress in the attainment of the specific air quality standard or will violate the provisions of Section 3-3 of this Regulation. Before the Director can issue a Construction Permit to a major source, all other facilities operated by the applicant in the State of Tennessee must be in compliance or on an Federally approved compliance schedule. Before the Director can issue a permit to construct, any new or modified stationary source must meet the following requirements:
 - (1) A minor stationary source or modification, other than a major modification shall:
 - (i) Utilize best available control technology (BACT) as specified by the Director; and,
 - (2) A major stationary source or major modification shall:
 - (i) Meet the lowest achievable emission rate (LAER) for that type of source as determined by the Director; and,
 - (ii) Demonstrate that by the time the proposed source or modification is to commence operation, sufficient emission offsets should be in effect such that the total

emissions from existing sources in the area, from new or modified sources which are not major stationary sources, and from the proposed source or modification will be sufficiently less than the total emissions from existing sources prior to the application for such permit to construct or modify so as to represent reasonable further progress as defined in Section 3-1 of the Regulation.

The emission offset must be in effect and legally enforceable on or before the date that the source or modification is to commence operation and must be demonstrated by source testing or another method acceptable to the Director. Emission offsets will not be allowed which replace one volatile organic compound with another compound of lesser reactivity.

For the purpose of satisfying the emission offset requirement in regard to volatile organic compounds, the ratio of total emission reductions to total increased emissions shall be 1.15 to 1.00.

Emission offsets may be achieved by shutting down an existing source or by permanently curtailing production or hours of operation below baseline levels provided that the work force has been notified or by agreeing to control emissions of the non-attainment pollutant to a level lower than the statutory requirement. Source shutdowns and curtailments in production or operating hours occurring prior to the date that the new source application is filed generally may not be used for emission offset credit. However, where an applicant can establish that it shutdown or curtailed production less than one year prior to the filing date and the proposed new source is a replacement for the shutdown or curtailed source, credit for such shutdown or curtailment may be applied to offset emissions from the new source.

Emission reductions achieved pursuant to any statutory requirement are not creditable for emission offsets. However, a source may achieve offset credit by agreeing to control emissions of the non-attainment pollutant to a level lower than the statutory requirement. Furthermore, emission reductions achieved indirectly as a result of a statutory requirement may be creditable for emission offsets provided that the emission reductions meet the requirements of paragraph (ii) of this section.

- (3) A stationary source or modification that is major due to volatile organic compound or nitrogen oxide emission shall make an analysis of alternate sites, sizes, production processes, and environmental control technology for the proposed source. A permit shall only be issued if the benefits of the proposed source significantly outweigh the environmental and social cost imposed on the public as a result of the source's location, construction, or modification. The Director shall require the submittal of such information as he deems necessary for this analysis.

- (c) The Director shall make a final determination whether construction should be approved, approved with conditions, or disapproved within sixty (60) days after receipt of the completed application, except for stationary sources covered under Section 3-3 of this regulation.
- (d) At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in an enforceable limitation which was established after the effective date of this section, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of this section shall apply to the source or modification as though construction had not yet commenced on the source or modification as though construction had not yet commenced on the source or modification.
- (e) Prior to approval or disapproval of an application for a Construction Permit for a new major stationary source or major modification, the Director shall notify the Administrator and the public by advertisement in a local newspaper of the analysis of the effect of such construction or modification on ambient air quality, and the opportunity for comments at a public hearing, if a public hearing is requested in writing, as well as written comments. The Director shall make available a copy of all materials that the applicant submitted, a copy of the air quality analysis, and a copy or summary of other materials considered in making the determination.
- (f) All applications of air quality modeling required under this Section shall be based on the applicable models data bases and all other requirements specified in Appendix W of 40 CFR Part 51 ("Guideline on Air Quality Models (Revised)"). Where an air quality model specified in Appendix W of 40 CFR Part 51 is inappropriate, the model may be modified or another model substituted on a case-by-case basis provided that written approval is obtained from the Director for any such modification or substitution. Furthermore, the use of a modified or substitute model will be subject to notice and opportunity for public comment under the provisions set forth in 40 CFR Part 51, Subpart 51.102.

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SECTION 3-3: Prevention of Significant Deterioration (PSD) Review

- (a) In addition to the requirements of Section 3-2, the following stationary sources are subject to the provisions of this section:
- (1) Any of the following stationary sources which emit or have the potential to emit 100 tons per year or more of any pollutant subject to regulation under the Federal Clean Air Act:
 - (i) Fossil fuel-fired steam electric plants of more 250 million British thermal units per hour heat input
 - (ii) Coal cleaning plants (with thermal dryers)
 - (iii) Kraft pulp mills
 - (iv) Portland cement plants
 - (v) Primary aluminum ore reduction plants
 - (vi) Primary copper smelters
 - (vii) Municipal incinerators capable of charging more than 250 tons of refuse per day
 - (viii) Hydrofluoric, sulfuric and nitric acid plants
 - (ix) Petroleum refineries
 - (x) Lime plants
 - (xi) Phosphate rock processing plants
 - (xii) Coke oven batteries
 - (xiii) Sulfur recovery plants
 - (xiv) Carbon black (furnace process)
 - (xv) Primary lead smelters
 - (xvi) Fuel conversion plants
 - (xvii) Sintering plants
 - (xviii) Secondary metal production plants

(xix) Chemical process plants

(xx) Fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input

(xxi) Petroleum storage and transfer units with a total storage capacity exceeding 300 thousand barrels

(xxii) Taconite ore processing plants

(xxiii) Glass fiber processing plants

(xxiv) Charcoal production plants.

(xxv) Primary zinc smelters

(xxvi) Iron and steel plants

(2) Any stationary source which emits or has the potential to emit 250 tons per year or more of any air pollutant subject to regulation under the Clean Air Act.

(3) Any of the above stationary sources which undertake a major modification.

(b) This section or portions thereof shall not apply to a particular stationary source or major modifications in accordance with the following provisions:

(1) Any stationary source or major modification shall be exempt from this section with respect to a particular pollutant if the source is proposing to construct in an area classified non-attainment for that pollutant.

(2) Any stationary source or modification which would be subject to the provisions of this section only if fugitive emissions, to the extent quantifiable, are considered for calculating potential emissions and which does not belong to any of the categories of subparagraph (a)(1) and is not being regulated by Section 111 or 112 of the Federal Clean Act shall be exempt from this section.

(3) Any portable major source which has previously received a permit under this section is exempt from further review when the owner or operator proposes to relocate provided that the emissions at the new location would be temporary, would not exceed the allowable emission rate, and would not impact any area where an applicable increment is known to be violated. Notice shall be given to the Director 30 days prior to the relocation, giving the new temporary location and the probable length of operation at the new location.

- (4) The requirements of paragraphs (e), (g) and (i) of this section shall not apply to any stationary source or major modification with respect to a particular pollutant if the allowable emission of that pollutant or the net emission increase of that pollutant would be temporary and would not impact any area where an applicable increment is known to be violated.
- (5) The requirements of paragraphs (e), (g) and (i) of this section shall not apply to a major modification at a stationary source that was in existence on March 1, 1978, if the allowable emission of each pollutant subject to regulation under the Clean Air Act from the modification, after the application of best available control technology, is less than [sic] 50 tons per year.
- (c) At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after the effective date of this section, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of this section shall apply to the source or modification as though construction had not yet commenced on the source or modification.
- (d) Any stationary source or major modification covered by this section shall apply best available control technology for each pollutant subject to regulation by the Clean Air Act that it would have the potential to emit in significant amounts or for which it would result in a significant net emissions increase at the source. The best available control technology determination for phased construction projects shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project.
- (e) Any stationary source covered by this section shall demonstrate that allowable emission increases from the proposed stationary source or modification in conjunction with all other applicable emission increases or reduction, (including secondary emissions) would not cause or contribute to violations of:
- (1) any National Ambient Air Quality Standard;
 - (2) the following maximum increase over the baseline concentration:
 - (i) Particulate Matter - PM₁₀:

Annual Arithmetic Mean	17 ug/m ³
24-hour maximum	30 ug/m ³
 - (ii) Sulfur Dioxide:

Annual Geometric Mean	20 ug/m ³
24-hour maximum	91 ug/m ³
3-hour maximum	512 ug/m ³

(iii) Nitrogen Dioxide

Annual Arithmetic Mean

25 ug/m³

- (f) All applications of air quality modeling required under this Section shall be based on the applicable models data bases and all other requirements specified in Appendix W of 40 CFR Part 51 (Guideline on Air Quality Models (Revised)” (1986), Supplement A (1987) and Supplement B (1993)). Where an air quality model specified in Appendix W of 40 CFR Part 51 is inappropriate, the model may be modified or another model substituted on a case-by-case basis provided that written approval os obtained from the Director for any such modification or substitution. Furthermore, the use of a modified or substitute model will be subject to notice and opportunity for public comment under the provisions set forth in 40 CFR Part 51, Subpart 51.102.
- (g) Any stationary source or major modification covered by this section shall conduct an analysis of the ambient air quality in the area that the source would affect for each pollutant that it would have the potential to emit in significant amounts or for which it would result in a significant net emissions increase. Such an analysis shall include:
- (1) With respect to any such pollutant for which no National Ambient Air Quality Standard exists, the analysis shall contain such air quality monitoring data as the Director determines is necessary to asses ambient air quality for that pollutant in the source impact area.
 - (2) With respect to any such pollutant(other than non methane hydrocarbons) for which such a standard does exist, the analysis shall contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maximum allowable increase.
 - (3) In general, the continuous air quality monitoring data that is required shall have been gathered over a period of at least one year and shall represent at least the year preceding receipt of the application, except that, if the Director determines that a complete and adequate analysis can be accomplished with monitoring data gathered over a period shorter than one year (but not less than four months), the data that is required shall have been gathered over at least that shorter period.
 - (4) The owner or operator of a stationary source or major modification subject to the provisions of this section shall, after construction of the source or modification, conduct such ambient monitoring as the Director determines is necessary to determine the effect emissions from the stationary source or modification may have, or are having, on air quality in any area.
 - (5) The owner or operator of any stationary source required to operate a monitoring station shall meet the requirements of 40 CFR 58 Appendix B during the operation of the station for the purpose of satisfying paragraph (g) of this section.

(6) The Director may exempt a stationary source or modification from the requirements of paragraph (g) with respect to monitoring for a particular pollutant if:

(i) The net emissions increase of the pollutant from the source or modification would cause, in any area, air quality impacts less than the following amounts:

Carbon Monoxide - 575 ug/m^3 , 8-hour average,

Nitrogen dioxide - 14 ug/m^3 , 24-hour average;

Total suspended particulate - 10 ug/m^3 , 24-hour average;

Sulfur Dioxide - 13 ug/m^3 , 24-hour average

PM₁₀ - 10 ug/m^3 , 24-hour average

Ozone - No de minimis air quality level has been established however, any net increase of 100 tons per year or more of volatile organic compounds subject to PSD would be required to perform an ambient impact analysis;

Lead - 0.1 ug/m^3 , 3-mo. average;

Mercury - 0.25 ug/m^3 , 24-hour average;

Beryllium - 0.001 ug/m^3 , 24-hour average;

Fluorides - 0.25 ug/m^3 , 24-hour average;

Vinyl Chloride - 15 ug/m^3 , 24-hour average;

Total reduced sulfur - 0.25 ug/m^3 , 1-hour average;

Hydrogen sulfide - 0.2 ug/m^3 , 1-hour average;

Reduced sulfur compounds - 10 ug/m^3 , 1-hour average; or

(ii) The pollutants are not listed in subparagraph (6)(i); or

(iii) Representative existing air quality data is available.

- (7) For any application that becomes complete, except as to the requirements of Paragraph (2) and (3) pertaining to the PM_{10} after December 1, 1988, and no later than August 1, 1989, the data that Paragraph (2) requires shall have been gathered over at least the period from August 1, 1988, to the date the application becomes otherwise complete, except that if the Director determines that a complete and adequate analysis can be accomplished with monitoring data over a shorter period (not to be less than 4 months), the data that Paragraph (2) requires shall have been gathered over that shorter period.
 - (8) With respect to any requirement for air quality monitoring of PM_{10} the owner or operator of the source or modification shall use a monitoring method approved by the Director and shall estimate the ambient concentrations of PM_{10} using the data collected by such approved monitoring method in accordance with estimating procedures approved by the Director.
- (h) The owner or operator of any proposed stationary source or major modification shall submit all information necessary to perform any analysis or make any determination required by this section. Such information shall include, but may not be limited to:
- (1) A description of the nature, location, design capacity, and typical operating schedule of the source or modification, including specifications and drawings showing its design and plant layout.
 - (2) A detailed schedule for construction of the stationary source or modification.
 - (3) A detailed description as to what system of continuous emission reduction is planned for the stationary source or modification, emission estimates, and any other information necessary to determine that best available control technology would be applied.
 - (4) The air quality impact of the stationary source or modification, including meteorological and topographical data necessary to estimate such emissions if requested by the Director.
 - (5) The air quality impacts and the nature and extent of any or all general commercial, residential, industrial, and other growth which has occurred since August 7, 1977 in the area the source or modification would affect if requested by the Director.
- (i)
- (1) The owner or operator shall provide an analysis of the impairment to visibility, soils and vegetation that would occur, as a result of the stationary source or modification and general commercial, residential, industrial, and other growth associated with the stationary source for modification. The owner or operator need not provide an analysis of the impact on the vegetation, having no significant commercial or recreational value.
 - (2) If requested by the Director, the owner or operator shall provide an analysis of the air

quality impact projected for the area, as a result of the general commercial, residential, industrial, and other growth associated with the stationary source or modification.

- (j) (1) Within thirty days after receipt of an application to construct or an addition to such application, the Director shall advise the applicant of any deficiencies in the application or in the information submitted. In the event of such a deficiency, the date of receipt of the application shall be, for the purpose of this section, the date on which the Director receives all required information.
- (2) Within sixty days after receipt of the completed application, the Director shall make a preliminary determination whether construction should be approved, approved with conditions, or disapproved.
- (3) Within seventy-five days after receipt of a completed application, the Director shall notify the public by advertisement in a local newspaper, of the preliminary determination, the degree of increment consumption expected from the stationary source, and the opportunity for comments at a public hearing, if a public hearing is requested in writing, as well as written comments. The public shall have thirty (30) days from the date of notices to submit written comments to the Director. The Director shall make available a copy of all materials that the applicant submitted, a copy of the preliminary determination, and a copy or summary of the other materials considered in making the preliminary determination.
- (4) The Director shall send a copy of the Notice of Public Comment to the applicant, to the Environmental Protection Agency, Region IV, Regional Administrator, to the State of Tennessee Air Pollution Control Division, the Mayor of Metropolitan Nashville and Davidson County, and the Executive Director of the Metropolitan Planning Organization.
- (5) The Director shall consider all written comments submitted and all comments received at any public hearing in making a final decision. No later than ten days after the close of the public comment period or after the Public Hearing, the owner or operator of the stationary source may submit a written response to any comments submitted by the public. The Director shall make all comments available for public inspection.
- (6) The Director shall make a final determination whether construction shall be approved, approved with conditions, or disapproved within 180 days of receipt of the completed application.
- (7) Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval or if construction is discontinued for a period of 18 months or more or if construction is not completed within a reasonable time.

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