

§ 51.100 Definitions.

Link to an amendment published at [83 FR 61134](#), Dec. 28, 2018.

As used in this part, all terms not defined herein will have the meaning given them in the Act:

(a) Act means the [Clean Air Act](#) ([42 U.S.C. 7401](#) *et seq.*, as amended by [Pub. L. 91-604](#), [84 Stat. 1676](#) [Pub. L. 95-95](#), 91 Stat., 685 and [Pub. L. 95-190](#), 91 Stat., 1399.)

(b) Administrator means the [Administrator](#) of the Environmental Protection Agency (EPA) or an [authorized representative](#).

(c) Primary standard means a national primary ambient air quality standard promulgated pursuant to section 109 of [the Act](#).

(d) Secondary standard means a national secondary ambient air quality standard promulgated pursuant to section 109 of [the Act](#).

(e) National standard means either a primary or [secondary standard](#).

(f) Owner or operator means any [person](#) who owns, leases, operates, controls, or supervises a [facility](#), building, structure, or installation which directly or indirectly result or may result in emissions of any air pollutant for which a [national standard](#) is in effect.

(g) Local agency means any local government agency other than the [State agency](#), which is charged with responsibility for carrying out a portion of the [plan](#).

(h) Regional Office means one of the ten (10) [EPA](#) Regional Offices.

(i) State agency means the air pollution control agency primarily responsible for development and implementation of a [plan](#) under [the Act](#).

(j) Plan means an implementation [plan](#) approved or promulgated under section 110 of 172 of [the Act](#).

(k) Point source means the following:

(1) For [particulate matter](#), sulfur oxides, carbon monoxide, [volatile organic compounds \(VOC\)](#) and nitrogen dioxide -

(i) Any [stationary source](#) the [actual emissions](#) of which are in excess of 90.7 metric tons (100 tons) per year of the pollutant in a [region containing](#) an area whose 1980 *urban place* population, as defined by the U.S. Bureau of the Census, was equal to or greater than 1 million.

(ii) Any [stationary source](#) the [actual emissions](#) of which are in excess of 22.7 metric tons (25 tons) per year of the pollutant in a [region containing](#) an area whose 1980 *urban place* population, as defined by the U.S. Bureau of the Census, was less than 1 million; or

(2) For [lead](#) or [lead](#) compounds measured as elemental [lead](#), any [stationary source](#) that actually emits a total of 4.5 metric tons (5 tons) per year or more.

(l) Area source means any small residential, governmental, institutional, commercial, or industrial fuel combustion operations; onsite [solid](#)

[waste disposal facility](#); motor vehicles, aircraft vessels, or other [transportation](#) facilities or other miscellaneous sources identified through inventory techniques similar to those described in the "AEROS Manual series, Vol. II AEROS User's Manual," EPA-450/2-76-029 December 1976.

(m)Region means an area designated as an air quality control [region](#) (AQCR) under section 107(c) of [the Act](#).

(n)Control strategy means a combination of measures designated to achieve the aggregate [reduction](#) of emissions necessary for attainment and maintenance of [national standards](#) including, but not limited to, measures such as:

- (1) Emission limitations.
- (2) Federal or [State](#) emission charges or taxes or other economic incentives or disincentives.
- (3) Closing or relocation of residential, commercial, or industrial facilities.
- (4) Changes in schedules or methods of [operation](#) of commercial or industrial facilities or [transportation](#) systems, including, but not limited to, short-term changes made in accordance with standby plans.
- (5) Periodic [inspection](#) and testing of [motor vehicle](#) emission control systems, at such time as the [Administrator](#) determines that such programs are feasible and practicable.
- (6) Emission [control measures](#) applicable to in-use motor vehicles, including, but not limited to, measures such as mandatory maintenance, installation of emission control devices, and conversion to gaseous fuels.
- (7) Any [transportation control measure](#) including those [transportation](#) measures listed in section 108(f) of the [Clean Air Act](#) as amended.
- (8) Any variation of, or alternative to any measure delineated herein.
- (9) Control or prohibition of a fuel or fuel additive used in motor vehicles, if such control or prohibition is necessary to achieve a national primary or secondary air quality standard and is approved by the [Administrator](#) under section 211(c)(4)(C) of [the Act](#).

(o)Reasonably available control technology (RACT) means devices, systems, process modifications, or other apparatus or techniques that are reasonably [available](#) taking into account:

- (1) The necessity of imposing such controls in order to attain and maintain a [national ambient air quality standard](#);
- (2) The social, environmental, and economic impact of such controls; and
- (3) Alternative means of providing for attainment and maintenance of such standard. (This provision defines [RACT](#) for the purposes of [§ 51.341\(b\)](#) only.)

(p) Compliance schedule means the date or dates by which a source or category of sources is required to comply with specific emission limitations [contained](#) in an implementation [plan](#) and with any [increments of progress](#) toward such compliance.

(q) Increments of progress means steps toward compliance which will be taken by a specific source, including:

- (1) Date of submittal of the source's final control [plan](#) to the appropriate air pollution control agency;
- (2) Date by which contracts for emission control systems or process modifications will be awarded; or date by which orders will be issued for the purchase of [component](#) parts to accomplish emission control or process modification;
- (3) Date of initiation of [on-site construction](#) or installation of emission control equipment or process change;
- (4) Date by which [on-site construction](#) or installation of emission control equipment or process modification is to be completed; and
- (5) Date by which final compliance is to be achieved.

(r) Transportation control measure means any measure that is directed toward reducing emissions of air pollutants from [transportation](#) sources. Such measures include, but are not limited to, those listed in section 108(f) of the [Clean Air Act](#).

(s) Volatile organic compounds (VOC) means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions.

- (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); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-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); parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes; acetone; perchloroethylene (tetrachloroethylene); 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca); 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb); 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee); difluoromethane (HFC-32); ethylfluoride (HFC-161); 1,1,1,3,3,3-hexafluoropropane (HFC-236fa); 1,1,2,2,3-pentafluoropropane (HFC-245ca); 1,1,2,3,3-pentafluoropropane (HFC-245ea); 1,1,1,2,3-pentafluoropropane (HFC-245eb); 1,1,1,3,3-pentafluoropropane (HFC-

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245fa); 1,1,1,2,3,3-hexafluoropropane (HFC-236ea); 1,1,1,3,3,3-pentafluorobutane (HFC-365mfc); chlorofluoromethane (HCFC-31); 1-chloro-1-fluoroethane (HCFC-151a); 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a); 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C₄F₉OCH₃ or HFE-7100); 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OCH₃); 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅ or HFE-7200); 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CF₂OC₂H₅); methyl acetate; 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C₃F₇OCH₃, HFE-7000); 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500); 1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea); methyl formate (HCOOCH₃); 1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300); propylene carbonate; dimethyl carbonate; *trans*-1,3,3,3-tetrafluoropropene; HCF₂OCF₂H (HFE-134); HCF₂OCF₂OCF₂H (HFE-236cal2); HCF₂OCF₂CF₂OCF₂H (HFE-338pcc13); HCF₂OCF₂OCF₂CF₂OCF₂H (H-Galden 1040x or H-Galden ZT 130 (or 150 or 180)); *trans* 1-chloro-3,3,3-trifluoroprop-1-ene; 2,3,3,3-tetrafluoropropene; 2-amino-2-methyl-1-propanol; t-butyl acetate; 1,1,2,2-Tetrafluoro -1-(2,2,2-trifluoroethoxy) ethane; 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 an [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 [40CFR parts 52](#) or [60](#). The [EPA](#) shall not be bound by any [State](#) determination as to appropriate methods for testing

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or monitoring negligibly-reactive compounds if such determination is not reflected in any of the above provisions.

(5) [Reserved]

(6) For the purposes of determining compliance with California's aerosol coatings reactivity-based regulation, (as described in the California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 8.5, Article 3), any organic compound in the volatile portion of an aerosol coating is counted towards that [product](#)'s reactivity-based limit. Therefore, the compounds identified in [paragraph \(s\)](#) of this section as negligibly reactive and excluded from [EPA](#)'s definition of [VOCs](#) are to be counted towards a [product](#)'s reactivity limit for the purposes of determining compliance with California's aerosol coatings reactivity-based regulation.

(7) For the purposes of determining compliance with [EPA](#)'s aerosol coatings reactivity based regulation (as described in [40 CFR part 59](#) - National Volatile Organic Compound Emission Standards for Consumer and Commercial [Products](#)) any organic compound in the volatile portion of an aerosol coating is counted towards the [product](#)'s reactivity-based limit, as provided in [40 CFR part 59](#), subpart E. Therefore, the compounds that are used in aerosol coating [products](#) and that are identified in paragraphs (s)(1) or (s)(5) of this section as excluded from [EPA](#)'s definition of [VOC](#) are to be counted towards a [product](#)'s reactivity limit for the purposes of determining compliance with [EPA](#)'s aerosol coatings reactivity-based national regulation, as provided in [40 CFR part 59](#), subpart E.

(t)-(w) [Reserved]

(x) Time period means any period of time designated by hour, month, season, calendar year, averaging time, or other suitable characteristics, for which ambient air quality is estimated.

(y) Variance means the temporary deferral of a final compliance date for an individual source subject to an approved regulation, or a temporary change to an approved regulation as it applies to an individual source.

(z) Emission limitation and *emission standard* mean a requirement established by a [State](#), local government, or the [Administrator](#) which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe [operation](#) or maintenance procedures for a source to assure continuous emission [reduction](#).

(aa) Capacity factor means the ratio of the average load on a machine or equipment for the period of time considered to the capacity rating of the machine or equipment.

(bb) Excess emissions means emissions of an air pollutant in excess of an emission standard.

(cc) Nitric acid plant means any [facility](#) producing nitric acid 30 to 70 percent in strength by either the pressure or atmospheric pressure process.

(dd) Sulfuric acid plant means any [facility](#) producing sulfuric acid by the contact process by burning elemental sulfur, alkylated acid, hydrogen sulfide, or acid [sludge](#), but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(ee) Fossil fuel-fired steam generator means a furnace or boiler used in the process of burning [fossil fuel](#) for the primary purpose of producing steam by heat transfer.

(ff) Stack means any point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct but not including flares.

(gg) A stack in existence means that the [owner or operator](#) had (1) begun, or caused to begin, a continuous program of physical [on-site construction](#) of the stack or (2) entered into binding agreements or contractual obligations, which could not be cancelled or modified without substantial loss to the [owner or operator](#), to undertake a program of [construction](#) of the stack to be [completed](#) within a reasonable time.

(hh)

(1) Dispersion technique means any technique which attempts to affect the concentration of a pollutant in the ambient air by:

- (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

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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, the reviewing agency shall presume that 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 [§ 51.100\(hh\)\(1\)\(iii\)](#) 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.

(ii) Good engineering practice (GEP) stack height means the greater of:

(1) 65 meters, measured from the ground-level elevation at the base of the stack:

(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 [40](#) CFR parts [51](#) and [52](#).

$H_g = 2.5H$,

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 stack 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, of nearby structure(s)

provided that the [EPA](#), [State](#) or local control agency may require the use of a field study or fluid model to verify GEP stack height for the source; or

(3) The height demonstrated by a fluid model or a field study approved by the [EPA State](#) or local control agency, which ensures that the emissions from a stack do not result in excessive concentrations of any

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air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, [nearby](#) structures or [nearby](#) terrain features.

(jj)Nearby as used in [§ 51.100\(ii\)](#) of this part is defined for a specific structure or terrain feature and

(1) For purposes of applying the formulae provided in [§ 51.100\(ii\)\(2\)](#) 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 (1/2 mile), and

(2) For conducting demonstrations under [§ 51.100\(ii\)\(3\)](#) means not greater than 0.8 km (1/2mile), 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 (H_t) of the feature, not to exceed 2 miles if such feature achieves a height (H_t) 0.8 km from the stack that is at least 40 percent of the GEP stack height determined by the formulae provided in [§ 51.100\(ii\)\(2\)\(ii\)](#) of this part or 26 meters, whichever is greater, as measured from the ground-level elevation at the base of the stack. The height of the structure or terrain feature is measured from the ground-level elevation at the base of the stack.

(kk)Excessive concentration is defined for the purpose of determining good engineering practice stack height under [§ 51.100\(ii\)\(3\)](#) and means:

(1) For sources seeking credit for stack height exceeding that established under [§ 51.100\(ii\)\(2\)](#) a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, and 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 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 the prevention of [significant](#) deterioration program ([40 CFR 51.166](#) and [52.21](#)), 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 part shall be prescribed by the new source performance standard that is applicable to the source category unless the [owner or operator](#) demonstrates that this emission rate is infeasible. Where such demonstrations are approved by the authority administering the [State implementation plan](#), 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 [§ 51.100\(ii\)\(2\)](#), either (i) a maximum ground-level concentration due in

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whole or part to downwash, wakes or eddy effects as provided in [paragraph \(kk\)\(1\)](#) of this section, except that the emission rate specified by any 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 [§ 51.100\(ii\)\(2\)](#) 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 [§ 51.100\(ii\)\(2\)](#), a maximum ground-level concentration due in whole or 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.

(ll)-(mm) [Reserved]

(nn) Intermittent control system (ICS) means a [dispersion technique](#) which varies the rate at which pollutants are emitted to the atmosphere according to meteorological conditions and/or ambient concentrations of the pollutant, in order to prevent ground-level concentrations in excess of applicable ambient air quality standards. Such a [dispersion technique](#) is an ICS whether used alone, used with other [dispersion techniques](#), or used as a supplement to continuous emission controls (*i.e.*, used as a supplemental control system).

(oo)**Particulate matter** means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers.

(pp)**Particulate matter emissions** means 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 this chapter, or by a test method specified in an approved [State implementation plan](#).

(qq)**PM₁₀** means [particulate matter](#) with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a reference method based on appendix J of [part 50](#) of this chapter and designated in accordance with [part 53](#) of this chapter or by an [equivalent method](#) designated in accordance with [part 53](#) of this chapter.

(rr)**PM₁₀emissions** means finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal 10 micrometers emitted to the ambient air as measured by an applicable reference method, or an equivalent or alternative method, specified in this chapter or by a test method specified in an approved [State implementation plan](#).

<https://www.law.cornell.edu/cfr/text/40/51.100>

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(ss)Total suspended particulate means [particulate matter](#) as measured by the method described in appendix B of [part 50](#) of this chapter.

[[51 FR 40661](#), Nov. 7, 1986]