

## Chapter NR 400

### AIR POLLUTION CONTROL DEFINITIONS

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#### NOTE

Chapter 144, Stats., directs the department of natural resources to organize a comprehensive program to enhance the quality, management, and protection of the state's air resources. Chapters NR 400 to 499 are one part of that program. Chapter 144 also stresses the role of county government in establishing local air pollution control programs in cooperation with the department.

The objectives of these rules are to maintain standards of air quality at a level which will provide adequate protection to public health and welfare, and to prevent detrimental effect on property and our environment.

Nothing in chs. NR 400 to 499 or in ch. 144, Stats., prohibits a county or local jurisdiction from adopting more restrictive ordinances where local conditions indicate their need. Chapters NR 400 to 499, all or in part, may be adopted by reference by a county or municipality.

It is the department's policy to seek reasonable uniformity among local air pollution control ordinances in order to make the statewide comprehensive program more effective and less complicated for all persons concerned.

Chapters NR 400 to 499 are subject to periodic revision to reflect advancing control technology, increasing knowledge of the effect on health of sub-acute long term exposure to air pollutants and increased knowledge of the effect of pollutants on plant life, animal life, soils, and water resources.

**NR 400.01 Applicability; purpose.** (1) **APPLICABILITY.** This chapter applies to terms used in chs. NR 401 to 499. In addition to the definitions in this chapter other definitions are included in individual chapters in chs. NR 401 to 499 which are applicable to terms used in those respective chapters.

(2) **PURPOSE.** This chapter is adopted under s. 144.31, Stats., to establish a set of definitions for terms commonly used throughout chs. NR 401 to 499. Individual chapters in chs. NR 401 to 499 may contain additional definitions for terms unique to that individual chapter or that series of chapters.

**History:** Cr. Register, September, 1986, No. 369, eff. 10-1-86.

**NR 400.02 Definitions.** (1) "Affected facility" means any type or class of air contaminant source which is required to obtain a permit from the department prior to construction or modification or which is subject to an emission limitation in chs. NR 400 to 499.

(2) "Air contaminant" has the meaning designated in s. 144.30 (1), Stats.

(3) "Air contaminant source" has the meaning designated in s. 144.30 (2), Stats.

(4) "Air curtain destructor" means an incinerator device which utilizes a pit for burning combustible matter, into which air is blown at high velocity through a manifold and nozzle system along one side of the pit to create a turbulent, vortical flow of air and combustible gases in the pit to bring about combustion.

(5) "Air pollution" means the presence in the atmosphere of one or more air contaminants in such quantities and of such duration as is or tends to be injurious to human health or welfare, animal or plant life, or property or would unreasonably interfere with the enjoyment of life or property.

(5e) "Air pollution control permit" has the meaning designated in s. 144.30 (3), Stats.

(6) "Air region" means an area such as an AQCR designated pursuant to federal or Wisconsin laws in which a program to maintain or achieve air standards is implemented on a regional basis.

(7) "Allocation of the available air resource" has the meaning designated in s. 144.30 (3m), Stats.

(8) "Allowable emission" has the meaning designated in s. 144.30 (4), Stats.

(9) "Alternative method" means any method of sampling and analyzing for an air pollutant which is not a reference or equivalent method but which has been demonstrated to the department's satisfaction to produce, in specific cases, results adequate for the department's determination of compliance.

(10) "Ambient air" means the portion of the atmosphere external to buildings and to which the general public has access.

(11) "Ambient air increment" or "air increment" means the maximum allowable increase in concentration of an air contaminant above the base line concentration of the air contaminant.

(12) "Approved" means approved by the department of natural resources.

(13) "AQCR" means air quality control region. Air quality control regions all or part of which lie in Wisconsin are delineated in s. NR 404.03.

(15) "ASME" means American Society of Mechanical Engineers, 345 E. 47th Street, New York, New York 10017.

(16) "Associated parking area" means a parking facility owned or operated in conjunction with an indirect source.

(17) "Baseline concentration" has the meaning designated in s. 144.30 (8), Stats.

(17m) "Basic emissions unit" means the smallest collection of equipment which in combination emits or is capable of emitting any air contaminant.

(18) "Best available control technology" has the meaning designated in s. 144.30 (9), Stats.

(19) "Boiler" means any device with an enclosed combustion chamber in which fuel is burned to heat a liquid for the primary purpose of producing heat or power by indirect heat transfer.

(20) "Breakdown" means a sudden failure of emission control or emission monitoring equipment to function as a result of wear, failure to repair, breakage, unavoidable damage, or other unintentional causes.

(21) "BTU" means British thermal unit.

(22) "Carbon bed breakthrough" means a concentration of VOC in the exhaust from a carbon adsorption device that exceeds 10% weight of the inlet VOC concentration.

(23) "Commence construction" means to engage in a program of on-site construction, including a site clearance, grading, dredging or landfilling specifically designed for a stationary source in preparation for the fabrication, erection or installation of the building components of the stationary source.

(24) "Commence modification" means to engage in a program of on-site modification which may include site clearance, grading, dredging or landfilling in preparation for a specific modification of a stationary source.

(25) "Continuous vapor control system" means a vapor control system that destroys or removes vapors, such as those displaced from tanks during filling, on a demand basis without intermediate accumulation.

(26) "Control device" means equipment used to destroy or remove air contaminant in a gas stream prior to emission.

(27) "Day" means a 24-hour period beginning at midnight.

(28) "Department" means the department of natural resources, state of Wisconsin.

(29) "Direct source" means any stationary source which may directly result in the emission of any air contaminant at a fixed location (e.g., building demolition, foundry, grain elevator, gravel or stone quarry, paper mill, power plant, etc.).

(30) "Dose" means the total exposure to a pollutant over a specified time period.

$$\text{Dose} = \int_{T_1}^{T_2} C dT$$

where  $T_1$  is the starting time,  $T_2$  the end of the time period and  $C$  is the pollutant concentration which varies with time,  $C = f(T)$ .

(31) "Emission" means a release, whether directly or indirectly, of any air contaminant to the ambient air.

(32) "Emission limitation" or "emission standard" has the meaning designated in s. 144.30 (11), Stats.

(33) "Emission point" means any individual opening at a fixed location through which air contaminants are emitted.

(34) "Emission reduction option" has the meaning designated in s. 144.30 (12), Stats.

(35) "Emissions unit" means any part of a stationary source which emits or is capable of emitting any air contaminant.

(36) "Emulsified asphalt" means an emulsion of asphalt cement and water which contains a small amount of an emulsifying agent; a heterogeneous system containing 2 normally immiscible phases (asphalt and water) in which the water forms the continuous phase of the emulsion, and minute globules of asphalt form the discontinuous phase.

(37) "Equivalent air-dried kraft pulp" means pulp production which produces a loading of black liquor solids to the recovery furnace equivalent to that loading produced with kraft pulp.

(38) "Equivalent method" means any method of sampling and analyzing for an air pollutant which has been demonstrated to the department's satisfaction to have a consistent and quantitatively known relationship to the reference method, under specified conditions.

(39) "Facility" means an establishment—residential, commercial, institutional or industrial—which emits or causes emissions of air contaminants.

(40) "Fixed capital cost" means the capital needed to provide all of the depreciable components.

(41) "Fuel" means any solid, liquid or gaseous materials used to produce useful heat by burning.

(42) "Fugitive emission" means an emission from any emission point within a facility other than a flue or stack.

(43) "Heat sensitive material" means materials which cannot consistently be exposed to temperatures greater than 95°C (203°F).

(43m) "Highway" has the meaning given it in s. 340.01 (22), Stats.

(44) "Hour" means any 3,600 second period.

(45) "Implementation plan" means a plan adopted to implement, maintain, and enforce air standards within an air region or portion thereof.

(46) "Incinerator" means a combustion apparatus designed for high temperature operation in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned to produce solid and gaseous residues containing little or no combustible material.

(46m) "Increase in the net amount of emissions" has the same meaning as the phrase "net emissions increase" which is defined in s. NR 405.02 (24).

(46s) "Indirect source" means any stationary source which conveys motor vehicles or which attracts or may attract mobile source activity and thus indirectly causes the emission of any air contaminant. Such indirect sources include, but are not limited to highways and roads; parking facilities; retail, commercial and industrial facilities; recreation, amusement, sports and entertainment facilities; airports; office and government buildings; and educational facilities.

(47) "Intermittent vapor control system" means a vapor control system that employs an intermediate vapor holder to accumulate vapors

displaced from tanks during filling. The control device destroys or removes the accumulated vapors only during automatically controlled cycles.

(47e) "Intersection" has the meaning given in s. 340.01 (25), Stats.

(48) "Isokinetic sampling" means sampling in which the linear velocity of the gas entering the sampling nozzle is equal to that of the undisturbed gas stream at the same point.

(49) "kPa" means kilo Pascals (1.0 kPa = 0.15 psia).

(50) "Kraft process" means any pulping process which uses an alkaline sulfide solution containing sodium hydroxide and sodium sulfide for a cooking liquor.

(51) "Laboratory" means a facility or portion of a multi-use facility which does not produce a product for regular commercial use or sale and which is used primarily for scientific or technical experimentation or observation of matter for the purpose of research, development, quality assurance, analysis or teaching.

(52) "Loading rack" means an aggregation or combination of gasoline loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specific loading space.

(53) "Lowest achievable emission rate" has the meaning designated in s. 144.30 (15), Stats.

(53e) "Major source" means any stationery source which is a nonattainment area major source or an attainment area major source under the criteria in s. 144.391 (1) (a) or (2) (a), Stats.

(53s) "Minor source" means any stationary source which is not a major source.

(54) "Mobile source" means any motor vehicle or equipment other than a semistationary source which is capable of emitting any air contaminant while moving (e.g., automobile, bulldozer, bus, locomotive, motorboat, motorcycle, snowmobile, steamship, truck, etc.).

(55) "Modification" has the meaning designated in s. 144.30 (20), Stats.

(55e) "Modified indirect source" means an indirect source the modification of which is commenced after July 1, 1975, or after the date of issuance of the last air pollution control permit or plan approved to the source, whichever is later.

(56) "Motor vehicle" or "vehicle" means every self-propelled device, except railroad trains, by which any person or property is or may be transported or drawn upon a highway.

(57) "Municipality" has the meaning given it in s. 144.01 (6), Stats.

(58) "New direct or portable source" means a direct or portable source, the construction or modification of which is commenced after April 1, 1972, or the effective date of promulgation of an emission limit which applies.

(59) "New indirect source" means an indirect source, the construction of which is commenced after July 1, 1975.

(60) "Nonattainment area" has the meaning designated in s. 144.30 (21), Stats.

(61) "Operator" means any person who leases, controls, operates or supervises a facility, an air contaminant source, or air pollution control equipment.

(62) "Organic compound" means a compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates and ammonium carbonate.

(63) "Overall emission reduction efficiency" means the weight per unit time of an air contaminant removed by a control device divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage.

(64) "Ozone" means an allotropic form of oxygen found in the atmosphere which is a photochemical oxidant that oxidizes compounds not readily oxidized by oxygen alone; ozone is a secondary pollutant resulting from the conversion of oxygen in the presence of sunlight and such precursors as volatile organic compounds and nitrogen oxides.

(65) "Ozone season" means the period from May 1 through September 30 of any year.

(66) "Particulate" or "particulate matter" means any airborne finely divided solid or liquid material which exists as a solid with an aerodynamic diameter smaller than 100 micrometers.

(66m) "Particulate matter emissions" means all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by an applicable reference method or an equivalent or alternative method specified by the department.

(67) "Parts per million" or "ppm" means parts of a contaminant per million parts of gas by volume.

(68) "Performance test" means measurements of emissions or other procedures used for the purpose of determining compliance with a standard of performance.

(69) "Person" means any individual, corporation, company, cooperative, operator, tenant, lessee, syndicate, partnership, co-partnership, firm, association, trust, estate, public or private institution, joint stock company, political subdivision of the state of Wisconsin, state agency, interstate agency, federal agency, or any legal successor, representative, agent or agency of the foregoing.

(69m) "PM10 emissions" 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 by the department.

(70) "Portable source" means any facility, installation, operation or equipment which may directly result in the emission of any air contaminant only while at a fixed location but is capable of being transported to a

different location (e.g., portable asphalt plant, portable package boiler, portable air curtain destructor, etc.). A modified portable source or a source which has never received a plan approval shall be considered to be a direct stationary source which is subject to the requirements of ss. NR 408.025 to 408.07, 436.03 and 436.04.

(71) "Process gas" means any gas generated by a petroleum refinery process unit except fuel gas and process upset gas as defined in this section.

(72) "Process upset gas" means any gas generated by a petroleum refinery process unit as a result of start-up, shut-down, upset or malfunction.

(73) "Proportional sampling" means sampling at a rate that produces a constant ratio of flow in the sampling nozzle to stack gas flow rate.

(74) "Psia" means pounds per square inch absolute.

(75) "Reasonably available control technology" or "RACT" means that which provides the lowest emission rate that a particular source is capable of achieving by the application of control technology that is reasonably available considering technological and economic feasibility. Such technology may previously have been applied to similar, but not necessarily identical, source categories.

(76) "Reconstruction" means the removal of components of a stationary source and the substitution of those components with similar new components to such an extent that the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable entirely new stationary source. The term "reconstruction" does not apply to minor sources.

(77) "Reference method" means any method of sampling and analyzing for an air pollutant, as described in Appendix A of 40 CFR pt. 60.

(78) "Relocation" means the removal of a stationary source from one location and the siting of the stationary source at a different location.

(79) "Replacement" means the physical dismantling of a stationary source and the substitution of that source with a stationary source which is similar in operating capacity and function.

(80) "Residual fuel oil" means an industrial fuel oil of grade No. 4, 5 or 6, as determined by the specifications in ASTM D396.

Note: See American Society for Testing and Materials 1983, "1983 Annual Book of ASTM Standards, Volume 05.01." Copies of this document are available for inspection at the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin, and may be obtained for personal use from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(80s) "Road" means the entire width between boundary lines of any way open to the public for vehicular travel.

(81) "Roadway" has the meaning given it in s. 340.01 (54), Stats.

(82) "Run" means the net period of time during which an emission sample is collected.

(83) "Secretary" means the secretary of the department of natural resources, state of Wisconsin.

(84) "Semistationary source" means any facility, operation or equipment that has the capability of emitting any air contaminant while moving, but generally does not emit while moving (e.g., diesel cranes, air compressors, and electric generators such as those used at construction sites, etc.).

(85) "Separation operation" means a process that separates a mixture of compounds and solvents into 2 or more components. Specific mechanisms include extraction, centrifugation, filtration, and crystallization.

(86) "Shutdown" means the cessation of operation of a direct or portable source or of emission control equipment.

(87) "Smoke" means all products of combustion of sufficient density to be observable, including but not limited to carbon, dust, fly ash, and other particles, but not including uncombined water.

(88) "Solvent" means organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents.

(89) "Stack" means any device or opening designed or used to emit air contaminants to the ambient air.

(90) "Standard conditions" means a temperature of 20°C (68°F) and a pressure of 760 millimeters of mercury (29.92 inches of mercury).

(92) "Standard operating procedure" means a formal written procedure officially adopted by the plant owner or operator and available on a routine basis to those persons responsible for carrying out the procedure.

(93) "Standard pressure" means a pressure of 760 millimeters of mercury (29.92 inches of mercury).

(94) "Standard temperature" means a temperature of 20°C (68°F).

(95) "Startup" means the setting in operation of an affected facility or its emission control equipment for any purpose which produces emissions.

(96) "Stationary source" has the meaning designated in s. 144.30 (23), Stats.

(97) "Technological infeasibility" means incapable of being accomplished or carried out as a matter of practicality; i.e., technically impracticable rather than technically impossible.

(98) "Traffic volume" means the number of vehicles that pass a particular point on the roadway during a specific time period. Volume can be expressed in terms of daily traffic or annual traffic as well as on an hourly basis.

(99) "Uncombined water" means water not chemically or physically bound to another materials.

(100) "Volatile organic compound" or "VOC" means any compound of carbon that has a vapor pressure greater than 0.1 millimeter of mercury (0.0019 psia) at standard conditions, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.



(101) "Wastewater treatment process" includes any process which modifies characteristics such as biological or chemical oxygen demand, total suspended solids, or pH, usually for the purpose of meeting effluent guidelines and standards but does not include any process the purpose of which is to remove vinyl chloride from water to meet requirements of ch. NR 449.

**History:** Cr. (7), (8), (17), (18), (32), (34), (53) and (60), (64) renum. from NR 404.01 (7), remainder renum. from NR 154.01 and am. (1), (2), (3), (94) and (96), Register, September, 1986, No. 369, eff. 10-1-86; cr. (46m), Register, January, 1987, No. 373, eff. 2-1-87; am. (66), Register, September, 1987, No. 381, eff. 10-1-87; emerg. am. (66), eff. 10-1-87; r. (14) and (91), cr. (47e), (55e) and (80s), am. (59) and (69), renum. (98) to be NR 406.02 (5e), (12), (17m), (43m), (46s), (53e) and (53s) renum. from NR 410.02 (1), NR 406.02 (3), (4) and (6) and NR 410.02 (4) and (5) and am. (46s), Register, April, 1988, No. 388, eff. 5-1-88; am. (66), renum. (77) to be NR 445.02(9m), cr. (66m), (69m) and (77), Register, December, 1988, No. 396, eff. 1-1-89.