Chapter NR 400

AIR POLLUTION CONTROL DEFINITIONS

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 400 to 499. In addition to the definitions in this chapter other definitions may be included in individual chapters or sections in chs. NR 401 to 499 which are applicable to terms used in those respective chapters or sections.

(2) PURPOSE. This chapter is adopted under s. 144.31, Stats., to establish a set of definitions for terms commonly used throughout chs. NR 400 to 499. Individual chapters or sections in chs. NR 401 to 499 may contain additional definitions for terms unique to an individual chapter or section or to a specified series of chapters. If an individual chapter or section defines a term which is also defined in this chapter, the former definition applies in the individual chapter or section rather than the definition in this chapter.

History: Cr. Register, September, 1986, No. 369, eff. 10-1-86; am. Register, February, 1990, No. 410, eff. 3-1-90.

NR 400.02 Definitions. (1) "Acid rain phase I affected unit" means any unit listed in Table A of 42 USC 7651c. These are:

(a) Wisconsin Power and Light - Edgewater generating station unit 4.

(b) Dairyland Power Cooperative - Genoa generating station unit 3.

(c) Wisconsin Power and Light - Nelson Dewey generating station units 1 and 2.

(d) Wisconsin Electric Power Company - North Oak Creek generating station units 1, 2, 3 and 4 and South Oak Creek generating station units 5, 6, 7 and 8.

(e) Wisconsin Public Service Corporation - Pulliam generating station unit 8.

(1j) "Actual emissions" means the total emissions generated by a facility over a specified period of time taking into account any reductions made by a control device or technique.

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

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

(4) "Air curtain destructor" has the meaning given in s. 144.436 (1) (a), Stats.

(4m) "Air pollutant" means an air contaminant as defined in s. 144.30 (1), Stats.

(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 given in s. 144.30 (3), Stats.

(5s) "Air quality control region" or "AQCR" means an area designated under 42 USC 7407 or s. NR 404.03 in which a plan to maintain or achieve air standards is implemented on a regional basis. Air quality control regions include both interstate and intrastate regions.

(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 given 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.

(11m) "API" means American Petroleum Institute, 1220 L Street, N.W., Washington, D.C. 20005.

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

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

(16e) "ASTM" means American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103.

(17) "Baseline concentration" has the meaning given 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 given 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.

(21e) "Bulk gasoline plant" means a gasoline storage and distribution facility which receives gasoline from bulk terminals, stores it in stationary storage tanks, and subsequently distributes it to gasoline dispensing facilities.

(21m) "Capture efficiency" means the weight per unit time of an air contaminant entering a capture system and delivered to a control device divided by the weight per unit time of the air contaminant generated by the source, expressed as a percentage.

(22) "Capture system" means the equipment (including hoods, ducts, fans, etc.) used to contain, capture, or transport an air contaminant to a control device.

(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.

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

(26e) "Control efficiency" means the percentage by which a control device or technique reduces the emissions from a stationary source.

(26m) "Control system" means any number of control devices, including condensers, which are designed and operated to reduce the quantity of air contaminants emitted to the atmosphere.

(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.).

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

(32) "Emission limitation" or "emission standard" has the meaning given 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 given 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.

(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.

(39m) "Federally enforceable" means all limitations and conditions which are enforceable by the administrator of the U.S. environmental protection agency, including those requirements developed pursuant to chs. NR 440 and 446 to 449, requirements within any applicable state implementation plan, any permit requirements established pursuant to ch. NR 405, requirements in construction permits issued under ch. NR 406 or 408 and requirements in operation permits issued pursuant to ch. NR 407 and title V of the federal clean air act which are designated as federally enforceable.

Note: Permit or state implementation plan limitations generally considered federally enforceable are limitations on the allowable capacity of the equipment, requirements for the installation, operation and maintenance of pollution control equipment, limits on hours of operation and restrictions on amounts of materials combusted, stored, or produced. To be federally enforceable, restrictions on operation, production or emissions must reflect the shortest practicable time period, in no event for a period in excess of 30 days, and they must be tied to other enforceable operating restrictions at the source. General limitations on potential to emit, such as yearly limits in tons per year, by themselves, are not considered federally enforceable. The use of hourly, daily, weekly or monthly rolling averages are generally acceptable. Any federally enforceable limitations or conditions must be practically enforceable, ensure continuous compliance with the restrictions and include adequate testing, monitoring and recordkeeping procedures in an applicable federally issued permit, in a federally approved state implementation plan or in a permit issued under the state implementation plan.

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

(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) "Gasoline" means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater which is used as a fuel for internal combustion engines.

(43e) "Heat input" means the total gross calorific value per unit of time of all fuels being burned, where gross calorific value of a fuel is measured by ASTM Method D240-87, D1826-88 or D2015-91, incorporated by reference in ch. NR 484. Where the test method gives a higher and a lower heating value, heat input is calculated in BTU per hour using the higher heating value of the fuel.

(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 the state, an air region, or a portion of the state or region.

(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).

(47) "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.

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

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

(50) "Kraft pulp" means any pulp produced with 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) "Light-duty trucks" means any motor vehicles rated at 3864 kilograms (8500 pounds) gross weight or less which are designed primarily for the purpose of transporting goods and materials, or derivatives of such vehicles.

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

(53m) "Maximum theoretical emissions" means the quantity of air contaminants that theoretically could be emitted by a stationary source without control devices based on the design capacity or maximum pro-

duction capacity of the source and 8,760 hours of operation per year. In determining the maximum theoretical emissions of VOCs for a source, the design capacity or maximum production capacity shall include the use of raw materials, coatings and inks with the highest VOC content used in practice by the source.

(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" means any physical change in, or change in the method of operation of, a stationary source that increases the amount of emissions of an air contaminant or that results in the emission of an air contaminant not previously emitted. A modification does not include any changes identified in s. NR 406.04 (4).

(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.

(59m) "Nitrogen oxides" or "NO_x" means all oxides of nitrogen except nitrous oxide.

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

(60m) "Opacity" means the state of a substance which renders it partially or wholly impervious to rays of light. (20% opacity equals one unit on the Ringlemann Chart.)

(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 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) "PM_{10} 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.). As a type of direct stationary source, a modified portable source or a portable source which has never received a plan approval or air pollution control permit is subject to the requirements of chs. NR 406, 407 and 408.

(72) "Process line" means one or more actions or unit operations which must function simultaneously or in sequence in order to manufacture or modify a product (e.g., a spray booth, conveyor and drying oven are considered a process line).

(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 part 60, incorporated by reference in ch. NR 484.

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

(78m) "Remediation" means the removal of a contaminant from a solid or liquid material.

(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 D396-89a, incorporated by reference in ch. NR 484.

(80m) "Ringlemann Chart" means the chart published by the U.S. bureau of mines in which are illustrated graduated shades of grey to black for use in estimating the shade or density of smoke.

Note: One unit on the Ringlemann Chart equals 20% opacity. The Ringlemann Chart is published as Figure 1 in "Fundamentals of Smoke Abatement," December 1950, bureau of mines Information Circular 7588, which is incorporated by reference in ch. NR 484.

(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.

(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.).

(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).

(91) "Standard industrial classification code" or "SIC code" means the series of codes which classify facilities according to the type of economic activity in which they are engaged, as described in the Standard Industrial Classification Manual, 1987, incorporated by reference in ch. NR 484.

(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 a facility or its emission control equipment for any purpose which produces emissions.

(96) "Stationary source" has the meaning given 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) "Thermal evaporation unit" means any device which uses temperatures greater than the ambient temperature or 100 degrees fahrenheit, which is greater, to assist in evaporating organic compounds from soil or water.

(98m) "Total reduced sulfur" or "TRS" means the sum of any sulfur containing compounds in which the oxidation state of sulfur is less than zero.

Note: Common examples of such compounds are hydrogen sulfide, carbonyl sulfide, dimethyl sulfide, carbon disulfide, dimethyl disulfide and mercaptans.

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

(100) "Volatile organic compound" or "VOC" means any organic compound which participates in atmospheric photochemical reactions. This includes any such organic compound other than the following compounds, which have been determined to have negligible photochemical reactivity:

(a) Methane,

(b) Ethane,

(c) Methylene chloride (Dichloromethane),

(d) 1,1,1-Trichloroethane (Methyl chloroform),

(e) Trichlorofluoromethane (CFC-11),

(f) Dichlorodifluoromethane (CFC-12),

(g) Chlorodifluoromethane (CFC-22),

(h) Trifluoromethane (FC-23),

(i) 1,1,1-Trichloro-2,2,2-trifluoroethane (CFC-113),

(j) 1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC-114),

(k) Chloropentafluoroethane (CFC-115),

(l) 1,1,1-Trifluoro-2,2-dichloroethane (HCFC-123),

(m) 2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124),

(n) Pentafluoroethane (HFC-125),

(o) 1,1,2,2-Tetrafluoroethane (HFC-134),

(p) 1,1,1,2-Tetrafluoroethane (HFC-134a),

(q) 1,1-Dichloro-1-fluoroethane (HCFC-141b),

(r) 1-Chloro-1,1-difluoroethane (HCFC-142b),

(s) 1,1,1-Trifluoroethane (HFC-143a),

(t) 1,1-Difluoroethane (HFC-152a), and

(u) Perfluorocarbon compounds which fall into the following classes:

1. Cyclic, branched or linear completely fluorinated alkanes.

2. Cyclic, branched or linear completely fluorinated ethers with no unsaturations.

3. Cyclic, branched or linear completely fluorinated tertiary amines with no unsaturations, and

4. Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Note: The test methods used to measure VOC are specified in s. NR 439.06 (3).

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 (12); (5e), (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; r. (1), (22), (25), (30), (43), (47), (48), (52), (73) and (85), am. (2), (3), (5e), (8), (17), (18), (32), (34), (40), (45), (53), (55), (60), (70), (77), (95), (96) and (100), (11m), (16e), (21e), (21m), (22), (26m), (51m) and (72) renum. from NR 420.02 (3), (4), (7), 422.02 (6), 421.02 (2), 420.02 (12), 421.02 (5) and 419.02 (5) renum. (36), (71) and (72) to be NR 422.02 (12s), 420.02 (29m) and 420.02 (29p), Register, February, 1990, No. 410, eff. 3-1-90; (4m) and (43) renum. from NR 440.02 (4) and 440.64 (2) (d), Register, September, 1990, No. 417, eff. 10-1-90; am. (4), (26), (31), (66) and (80), cr. (78m) and (98), renum. (16) to be NR 406.02 (1), Register, August, 1991, No. 428, eff. 9-1-91; am. (50), r. (13), (5s), (60m), (80m) and (98m), renum. from NR 404.02 (1), NR 415.02 (4) and (7), NR 429.02 (2) and am., renum. (46), (47e) and (51m) to be (47), (48) and (52), (37), (82), (92) and (101) to be NR 417.02 (1), 449.02 (10m), (11m) and (18), Register, May, 1992, No. 437, eff. 6-1-92; emerg. am. (55), eff. 11-15-92; (39m) renum. from NR 405.02 (14) and am., cr. (43e) and (53m), r (53e), r. and recr. (55), am. (100), Register, May, 1993, No. 449, eff. 6-1-93; cr. (1), (1j), (26e) and (91), (59m) renum. from NR 101.03 (13) and am., Register, June, 1993, No. 450, eff. 7-1-93.