4. Resumption of operation of existing equipment after a period of closure.

(118m) "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.

(119) "Natural finish hardwood plywood panels" means panels whose original grain pattern is enhanced by essentially transparent finishes which may be supplemented by fillers and toners.

(120) "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.

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

(122) "Nitrogen oxides" means all oxides of nitrogen except nitrous oxide.

(123) "Noncondensibles" means gases and vapors from processes that are not condensed with the equipment used in those processes.

(124) "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.)

(125) "Open burning" means oxidation from which the products of combustion are emitted directly into the ambient air without passing through a stack or chimney.

(126) "Open top vapor degreasing" means the batch process of cleaning and removing soils from metal surfaces by condensing hot solvent vapor on the colder metal parts.

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

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

(129) "Oven" means, for the purpose of surface coating, a chamber within which heat is used to bake, cure, polymerize, or dry a surface coating.

(130) "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.

(131) "Overvarnish" means a coating applied directly over ink to reduce the coefficient of friction, to provide gloss and to protect the finish against abrasion and corrosion.

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

(133) "Packaging rotogravure printing" means rotogravure printing upon paper, paper board, metal foil, plastic film, or other substrates, which in subsequent operations are formed into packaging products or labels for articles to be sold.

(134) "Paper coating" means application of the uniform coatings put on paper and pressure sensitive tape regardless of substrate. Related web coating processes on plastic fibers and on metal foil are included in this definition but processes such as printing where the coating is not uniform across the web are not included.

(135) "Parking capacity" means the maximum number of vehicles which a parking facility is designed to hold based on an allotment of not more than 350 square feet of stall and aisle area per vehicle.

(136) "Particulate asbestos material" means any finely divided particles of asbestos material.

(137) "Particulate or particulate matter" means:

(a) For an existing direct or portable source, any material which exists as a solid at standard conditions.

(b) For a new direct or portable source, any material which exists as a solid or liquid at standard conditions except uncombined water.

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

(139) "Passenger type tire" means agricultural, airplane, industrial, mobile home, light and medium duty truck, and passenger vehicle tires with a bead diameter up to 50.8 cm (20 inches) and cross section dimension up to 32.5 cm (12.8 inches).

(140) "Peak hour volume" means the highest one-hour traffic volume in a calendar year.

(141) "Penetrating prime coat" means an application of low-viscosity liquid asphalt to an absorbent surface to prepare it for an asphalt surface.

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

(143) "Person" means any individual, corporation, company, cooperative, owner, 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, or any legal successor, representative, agent or agency of the foregoing.

(144) "Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, coal and coke.

(145) "Petroleum liquid" means crude petroleum, petroleum, condensate and any finished or intermediate products manufactured or extracted in a petroleum refinery or in a facility which produces oils from tar sands, shale, coal or coke.

(146) "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants or other products through distillation of petroleum or through redistillation, cracking, extraction or reforming of unfinished petroleum derivatives.

(147) "Photochemically reactive organic substances" means any of the following:

(a) Group A: Hydrocarbons, alcohols, aldehydes, esters, ethers or ketones, which have olefinic or cyclo-olefinic type unsaturation.

(b) Group B: Aromatic compounds with 8 or more carbon atoms to the molecule, except ethylbenzene.

(c) Group C: Ethylbenzene, toluene, or ketones having branched hydrocarbon structures.

(d) Group D: A solvent or mixture of organic compounds in which any of the following conditions are met:

1. More than 20% of the total volume is composed of any combination of compounds listed in groups A, B or C above.

2. More than 5% of the total volume is composed of any combination of the compounds listed in group A above.

3. More than 8% of the total volume is composed of any combination of the compounds listed in group B above.

(148) "Pneumatic rubber tire manufacture" means the production of pneumatic rubber passenger type tires on a mass production basis.

(149) "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 154.04 and 154.05.

(150) "Prime coat" means the first film of coating applied to a product in a multiple-coat surface coating operation.

(151) "Printed interior panels" means panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.

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

(153) "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).

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

(155) "Process weight" means the total weight of all materials introduced into any direct source operation, except liquid fuels, gaseous fuels and air.

(156) "Production equipment exhaust system" means a device for collecting and directing out of the work area fugitive emissions from reactor openings, centrifuge openings, and other vessel openings at a pharmaceutical manufacturing plant.

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

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

(159) "Publication rotogravure printing" means rotogravure printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, and other types of printed materials.

(160) "Quench area" means a chamber where the hot metal exiting the oven is cooled by either a spray of water or a blast of air followed by water cooling.

(161) "Reactor" means a vat or vessel, which may be jacketed to permit temperature control, designed to contain chemical reactions.

(162) "'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.

(163) "Refinery process unit" means any segment of a petroleum refinery in which a specific processing operation is conducted.

(164) "Reid vapor pressure" means the absolute vapor pressure of volatile crude petroleum and volatile nonviscous petroleum liquids except liquefied petroleum gases as determined by ASTM-D-232-72 (reapproved 1977).

(165) "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. (One unit on the Ringlemann Chart equals 20% opacity).

Note: See Ringlemann Chart published December, 1950, by the U.S. bureau of mines. Copies of "Fundamentals of Smoke Abatement," December, 1950, Ringlemann Chart, Information Circular 7688, 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 the U.S. department of interior, Washington, D.C.

(166) "Roll coating" means the application of a coating material to a substrate by means of hard rubber or steel rolls.

(167) "Roll printing" means the application of words, designs or pictures to a substrate, usually by means of a series of hard rubber or steel rolls each with only partial coverage.

(168) "Rotogravure coating" means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is etched on the coating roll. The coating material is transferred to the substrate from the recessed areas on the coating roll.

(169) "Rotogravure printing" means the application of words, designs or pictures to a substrate by means of a roll printing technique which involves an intaglio or recessed image areas in the form of cells.

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

(171) "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.).

(172) "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.

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

(174) "Silt content" means that portion by weight of a particulate material which will pass through a no. 200 (75 micron) wire sieve as determined by the dry method in ASTM C136-76 or other method approved by the department.

(175) "Single coat" means a single film of coating applied directly to a metal substrate, omitting the primer application.

(176) "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.

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

(178) "Solvent metal cleaning" means the process of cleaning soils from metal surfaces by cold cleaning or open top vapor degreasing or conveyorized degreasing.

(179) "Splash filling" means the filling of a tank truck or stationary storage tank through a pipe or hose whose discharge opening is more than 15.2 centimeters (6 inches) above the bottom of the tank being filled.

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

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

(182) "'Standard metropolitan statistical area' or 'SMSA'" means such area as designated by the U.S. bureau of budget in the following publication: *Standard Metropolitan Statistical Areas,* issued in 1967, with subsequent amendments. The following Wisconsin counties are included in SMSA's:

(a) Appleton-Oshkosh, Wisconsin SMSA:

1. Calumet county

2. Outagamie county

3. Winnebago county

(b) Duluth-Superior, Minnesota-Wisconsin SMSA: Douglas county

(c) Eau Claire, Wisconsin SMSA:

1. Eau Claire county

2. Chippewa county

(d) Green Bay, Wisconsin SMSA: Brown county

(e) Kenosha, Wisconsin SMSA: Kenosha county

(f) La Crosse, Wisconsin SMSA: La Crosse county

(g) Madison, Wisconsin SMSA: Dane county

(h) Milwaukee, Wisconsin SMSA:

1. Milwaukee county

2. Ozaukee county

3. Washington county

4. Waukesha county

(i) Minneapolis-St. Paul, Minnesota-Wisconsin SMSA: St. Croix county

(j) Racine, Wisconsin SMSA: Racine county

Note: See *Standard Metropolitan Statistical Areas,* Revised Edition, 1975, executive office of the President, office of management and budget. Copies of this publication are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin, or may be obtained for personal use from the superintendent of documents, U.S. government printing office, Washington, D.C., 20402.

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

(184) "Stationary source" means any facility, building, structure, installation, or action, or combination thereof which may directly or indirectly result in the emission of any air contaminant at a fixed location.

(185) "Submerged fill pipe" means any fill pipe with a discharge opening which is entirely submerged when the liquid level is 15.2 centimeters (6 inches) above the tank bottom.

(186) "Surface coating" means the application of a coating to a product in a coating line.

(187) "Synthesized pharmaceutical manufacturing" means manufacture of pharmaceutical products by chemical synthesis.

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

(189) "Thin particleboard" means a manufactured board 0.64 centimeters (1/4 inch) or less in thickness made of individual wood particles which have been coated with a binder and formed into flat sheets by pressure.

(190) "Three-piece can side-seam spray" means a coating sprayed on the exterior and interior of a welded, cemented or soldered seam to protect the exposed metal.

(191) "Tileboard" means paneling that has a colored waterproof surface coating.

(192) "Topcoat" means the final film of coating applied in a multiple coat operation.

(193) "'Total reduced sulfur' or 'TRS'" means any sulfur containing compound in which the oxidation state of sulfur is less than zero. Common examples of such compounds are hydrogen sulfide, mercaptans, and dimethyl disulfide.

(193m) "Trafficable area" means any area, including but not limited to a parking lot or storage area, which is external to a building or structure, is reasonably capable of being traveled by a motor vehicle, and is accessible to a motor vehicle.

(194) "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.

(195) "Transfer efficiency" means the portion of coating solids which adheres to the surface being coated during the application process, expressed as a percentage of the total volume of coating solids delivered to the applicator.

(196) "Tread end cementing" means the application of a solvent based cement to tire tread ends.

(197) "True vapor pressure" means the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, *Evaporation Loss from Floating Roof Tanks,* 1962.

(198) "Turnaround" means the procedure of shutting a refinery unit down after a run to do necessary maintenance and repair work and putting the unit back on stream.

(199) "Two-piece can exterior end coating" means a coating applied by roller coating or spraying to the exterior end of a can to provide protection to the metal.

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

(201) "Undertread cementing" means the application of a solvent based cement to the underside of a tire tread.

(202) "Vacuum producing system" means any reciprocating, rotary, or centrifugal blower or compressor, or any jet ejector or device that takes suction from a pressure below atmospheric and discharges against atmospheric pressure.

(203) "Vapor balance system" means a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

(204) "Vapor collection system" means, for the purpose of liquid organic compound transfer operations, a vapor transport system which uses direct displacement by the liquid loaded to force vapors from the tank into a vapor control system or vapor holding tank.

(205) "Vapor-mounted seal" means any primary floating roof seal mounted so that there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

(206) "Vapor recovery or control system" means a system that gathers organic compound vapors released during the operation of any transfer, storage, or process equipment and processes the vapors so as to prevent their emission into the ambient air.

(207) "Vinyl coating" means applying a decorative or protective topcoat or printing on vinyl coated fabric or vinyl sheets.

(208) "'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.

(209) "Wastewater (oil-water) separator" means any device or piece of equipment which utilizes the difference in density between oil and water to remove oil and associated chemicals from water. This includes any device, such as a flocculation tank, clarifer, etc., which removes petroleum derived compounds from wastewater.

(210) "Water based sprays" means release compounds, sprayed on the inside and outside of green tires, in which solids, water, and emulsifiers have been substituted for all organic solvents.

(211) "Waxy, heavy pour crude petroleum" means a crude petroleum with a pour point of 10°C (50°F) or higher as determined by the ASTM standard D97-66, "Test For Pour Point of Petroleum Oils."

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72, renum. (41) (a) 6 to be (41) (c); am. (41) (c) 3. and 4., Register, December, 1972, No. 204, eff. 1-1-73; r. and recr., Register,

June, 1975, No. 234, eff. 7-1-75; renum. (3) (b) and (c) to be (3) (c) and (d), renum. (3) (a) 3. to be (3) (b) and am., am. (38) (intro.), Register, April, 1977, No. 256, eff. 5-1-77; r. and recr., Register, July, 1979, No. 283, eff. 8-1-79; am. Register, March, 1981, No. 303, eff. 4-1-81; cr. (118m) and (193m), Register, March, 1982, No. 315, eff. 4-1-82.

NR 154.02 Applicability, delayed compliance, variances. (1) APPLICABILITY. The provisions of this chapter govern the release of air contaminants to the ambient air and the regulation of air contaminant sources by the department.

(2) DELAYED COMPLIANCE ORDERS. The department may, by order issued under s. 144.35 (1) (b), [144.423 (1) (b)] Stats., authorize a source not in compliance with an emission limitation prescribed in this chapter to achieve compliance as expeditiously as practicable but not later than 3 years after such requirement became applicable. The department shall hold a public hearing in accordance with its rules prior to authorizing any period of delayed compliance which exceeds 30 days in duration. No such order shall be issued unless:

(a) The cause of the violation was a malfunction, equipment failure, act of God, or some other condition beyond the entity's control, when using all prudent planning;

(b) The air contaminant source is located so that it will not delay attainment or affect maintenance of an ambient air quality standard at any point beyond the property line of the entity;

(c) Good faith efforts have been made to comply with this chapter;

(d) If the violation was caused by a malfunction or equipment failure, any plan required to be prepared by s. NR 154.06 (9) was complied with;

(e) The air contaminant for which a deferral is sought is not a hazardous pollutant for which an emission standard has been established by the administrator of the U.S. environmental protection agency.

(f) The conditions listed in s. NR 154.09 (1), if applicable, are met;

(g) The order contains:

1. An express provision whereby the order recipient consents to its issuance;

2. A requirement that the order recipient employ reasonable emission monitoring techniques to assess compliance with any interim requirements imposed by the order;

3. A requirement for submittal of reports showing whether any interim requirements, increments of progress, and final compliance have been achieved;

4. A provision prohibiting the reduction of employe wages where supplemental, intermittent or other dispersion-dependent control methods are to be used;

5. In the case of a major stationary source, a notice that it may be required to pay administrative noncompliance penalties for failure to comply with the order and that no order issued under this subsection shall be effective until it is approved by the administrator of the U.S. environmental protection agency or designee.

(h) All reasonably available alternative operating procedures and interim control measures to minimize emissions shall be utilized by the air contaminant source during the period of delayed compliance.

(3) RACT VARIANCES. (a) The department may grant source-specific revisions to the state implementation plan setting alternate compliance schedules or alternate emission limitations, or both, where compliance with general RACT requirements of this chapter are shown to be technologically or economically infeasible, provided that:

1. The revision will not delay attainment or prevent maintenance of any ambient air quality standard, as determined by methods acceptable to the department.

2. Construction or modification of the air contaminant source for which a revision is requested was commenced on or before October 1, 1979.

3. The owner or operator of the air contaminant source for which a revision is requested demonstrates that all direct or portable sources owned or operated in the state by such person are in compliance with all applicable requirements of this chapter or are on a schedule for compliance with such requirements.

4. The owner or operator submits to the department information concerning the conditions or special circumstances which demonstrates, to the department's satisfaction, that the applicable general RACT requirements from which variance is sought are technologically or economically infeasible. In addition,

a. Where an alternate compliance schedule is sought, the owner or operator shall submit a proposed schedule which demonstrates reasonable further progress and contains a date for final compliance as soon as practicable.

b. Where alternate emission limitations are sought, the owner or operator shall submit proposed emission limitations.

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create airborne dust, provided such application does not create a hydrocarbon, odor, or water pollution problem.

3. Installation and use of hoods, fans, and air cleaning devices to enclose and vent the areas where dusty materials are handled.

4. Covering or securing of materials likely to become airborne while being moved on public roads, railroads, or navigable waters.

5. Conduct of agricultural practices such as tilling of land or application of fertilizers in such manner as not to create air pollution.

6. The paving or maintenance of roadways or parking lots so as not to create air pollution.

(b) In addition to meeting the requirements of par. (a), any direct or portable source located in a nonattainment area identified under s. NR 154.03 (1) for suspended particulate matter; and any direct or portable source located near such areas whose aggregate fugitive dust emissions may cause an impact on the ambient air quality in such areas equal to or greater than one microgram per cubic meter (annual concentration) or 5 micrograms per cubic meter (maximum 24-hour concentration), as determined by the analysis under s. NR 154.03 shall meet the following RACT requirements:

1. Storage piles having a material transfer greater than 100 tons in any year: a. Storage piles of material having a silt content of 5% to 20% shall be treated with water, surfactants, stabilizers or chemicals; draped; or enclosed on a minimum of 3 sides. Access areas surrounding storage piles shall be watered, cleaned or treated with stabilizers as needed to prevent fugitive dust from vehicle traffic.

b. Storage piles of materials having a silt content of 20% or more shall be completely enclosed or draped except any part being worked, loaded or unloaded. Access areas surrounding storage piles shall be watered, cleaned or treated with stabilizers as needed to prevent fugitive dust from vehicle traffic.

2. Materials handling operations: a. Materials handling operations, including but not limited to crushing, grinding, mixing, screening, compacting, conveying, handling of waste material with more than 5% silt, and loading and unloading of railcar, truck, ship or barge shall have fugitive emissions controlled to 20% opacity when wind speeds are less than 25 miles per hour except for 3 minutes in any hour when fugitive emissions may equal 50% opacity.

b. Any device used to control fugitive emissions from materials handling operations which has a discharge to the ambient air shall be controlled equal to or less than 0.20 pounds of particulate matter per 1000 pounds of exhaust gas.

3. Process fugitive emissions: a. Any device used to control fugitive particulate emissions from processes which has a discharge to the ambient air shall be controlled to an exhaust gas concentration equal to or less than 0.20 pounds of particulate matter per 1000 pounds of exhaust gas.

b. Emissions from any building or structure egress other than a stack shall be controlled such that visible emissions shall not exceed 20%

opacity except for 3 minutes in any hour when fugitive emissions may equal 50% opacity.

(c) In addition to meeting the requirements of par. (a), private industrial or commercial trafficable areas, roads and driveways which are located in or within one mile of a nonattainment area identified under s. NR 154.03 (1) for suspended particulate matter, are 20,000 square feet or more in total area, are on contiguous property under common ownership or control, and are subject on 3 separate days during any 14 consecutive day period to motor vehicle traffic at any point within the roads, driveways or trafficable areas at a rate equal to or greater than 10 motor vehicles per 60 minute period, shall meet the following RACT emission limitations:

1. Be paved with asphalt, concrete or other material approved by the department, or use other methods of dust control which the department approves as representing RACT for the particular road, driveway or trafficable area. Such other methods of dust control which may be approved by the department include but are not limited to periodic application of water, oil or suitable chemicals. In reviewing and acting upon plans required by par. (d) for compliance with this paragraph, the department shall consider the effects of the use of paving or other methods of dust control upon the rate and volume of surface water runoff and water quality.

2. If paved, be kept reasonably free of material likely to become airborne, through a program of periodic cleaning.

(d) When a direct or portable source is subject to the emission limitations of par. (b) or (c) the owner or operator may not exceed the following increments of progress in achieving compliance commencing with the nonattainment determination under s. NR 154.03 (1):

1. Submit plans for compliance within 8 months.

2. Award any necessary contracts within 15 months.

3. Commence construction, installation or modification of emission control techniques required under pars. (b) 1. and 2.a. and (c) within 18 months.

4. Commence construction, installation or modification of emission control techniques required under par. (b) 2.b. and 3. within 24 months.

5. Complete construction, installation or modification of emission control techniques required under pars. (b) 1. and 2.a. and (c), achieve compliance, and so certify to the department within 21 months.

6. Complete construction, installation or modification of emission control techniques required under par. (b) 2.b. and 3. within 30 months and achieve final compliance and so certify to the department within 33 months.

(3) PARTICULATE EMISSION LIMITS FOR PROCESSES. No person shall cause, allow, or permit the emission of particulate matter to the ambient air from a direct or portable source involving a process in excess of the following limitations:

(a) All direct and portable sources on which construction or modification is commenced after April 1, 1972 shall meet the emission limitations of this paragraph.

1. Direct or portable sources other than those specified in sub. (3) (a) 2.; emissions in excess of:

a. Any process not otherwise covered by sub. (3) (a): emissions calculated by the use of the equation, $E = 3.59\ P^{0.62}$ for process weight rates up to 60,000 pounds per hour; by use of the equation $E = 17.31\ P^{0.16}$ for process weight rates of 60,000 pounds per hour or more; (E is the allowable emissions in pounds per hour and P is the process weight rate in tons per hour) or in concentrations greater than those listed in sub. (3) (b), whichever is more restrictive. Some examples of these calculations are given in the following table.

Process Weight Rate (Lbs/Hr.)	Emission Rate (Lbs/Hr.)
50	0.36
100	0.56
500	1.52
1,000	2.33
5,000	6.33
10,000	9.74
20,000	14.96
60,000	29.57
80,000	31.23
120,000	33.33
160,000	34.90
200,000	36.16
400,000	40.41
1,000,000	46.79

b. Cement kilns: 0.30 pounds of particulate per ton of feed to the kiln.

c. Cement clinker coolers: 0.10 pounds of particulate per ton of feed to the kiln.

2. Direct or portable sources specified hereunder on which construction or modification is commenced after February 1, 1975; emissions in excess of:

a. Asphalt concrete plants (any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing asphalt concrete; and the loading, transfer, and storage systems associated with emission control systems): 0.04 grains per dry cubic foot at standard conditions (90 milligrams per dry cubic meter at standard conditions).

b. Petroleum refineries (fluid catalytic cracking unit catalyst regenerators or fluid catalytic cracking unit incinerator-waste heat boilers):

1) 1.0 pound per 1,000 pounds (1.0 kilogram per 1,000 kilograms) of coke burn-off in the catalyst regenerator.

2) In those instances in which auxiliary liquid or solid fossil fuels are burned in the fluid catalytic cracking unit incinerator-waste heat boiler,

particulate matter in excess of that permitted by par. (a) 2.b.1) may be emitted to the atmosphere, except that the incremental rate of particulate emissions shall not exceed 0.10 pounds per million BTU (0.18 grams per million calories) of heat input attributable to such liquid or solid fuel.

c. Secondary lead smelters (blast or cupola furnaces and reverberatory furnaces): 0.022 grains per dry cubic foot at standard conditions (50 milligrams per dry cubic meter at standard conditions).

d. Secondary brass and bronze ingot production plants (reverberatory furnaces of 2.205 pounds or greater production capacity): 0.022 grains per dry cubic foot at standard conditions (50 milligrams per dry cubic meter at standard conditions).

e. Iron and steel plants (basic oxygen process furnaces): 0.022 grains per dry cubic foot at standard conditions (50 milligrams per dry cubic meter at standard conditions).

(b) All direct and portable sources on which construction or modification was commenced on or before April 1, 1972 shall meet the emission limitations of this paragraph.

1. Direct or portable sources specified hereunder; emissions in excess of:

a. Cupolas melting more than 200 tons of metal in any year: 0.45 pounds of particulate matter per 1,000 pounds of gas.

b. Electric arc or induction furnaces: 0.1 pounds of particulate matter per 1,000 pounds of gas.

c. Open hearth furnaces: 0.2 pounds of particulate matter per 1,000 pounds of gas.

d. Basic oxygen furnaces: 0.1 pounds of particulate matter per 1,000 pounds of gas.

e. Sintering plants: 0.2 pounds of particulate matter per 1,000 pounds of gas.

f. Air melting furnaces: 0.3 pounds of particulate matter per 1,000 pounds of gas.

g. Heating or preheating furnaces: 0.3 pounds of particulate matter per 1,000 pounds of gas.

h. Blast furnaces: 0.2 pounds of particulate matter per 1,000 pounds of gas.

i. Asphalt, concrete, or aggregate mix plants: 0.3 pounds of particulate matter per 1,000 pounds of gas.

j. Cement kilns: 0.2 pounds of particulate matter per 1,000 pounds of gas.

k. Lime kilns: 0.2 pounds of particulate matter per 1,000 pounds of gas.

l. Cement clinker coolers: 0.3 pounds of particulate matter per 1,000 pounds of gas.

m. Grinding, drying, mixing, conveying, sizing, or blending: 0.2 pounds of particulate matter per 1,000 pounds of gas.

n. Grain processing or handling: 0.4 pounds of particulate matter per 1,000 pounds of gas.

o. Any other process not enumerated: 0.4 pounds of particulate matter per 1,000 pounds of gas.

(c) In addition to meeting the requirements of pars. (a) and (b), any direct or portable source located in or near a nonattainment area identified under s. NR 154.03 (1) for suspended particulate matter whose aggregate particulate emissions (excluding fugitive dust) may cause an impact on the ambient air quality in such areas equal to or greater than one microgram per cubic meter (annual concentration) or 5 micrograms per cubic meter (maximum 24-hour concentration) as determined by the analysis under s. NR 154.03 shall meet the following RACT emissions limitations:

1. Sources on which construction or modification was commenced after April 1, 1972 shall not emit more than the emissions limits of par. (a) or 0.20 pounds of particulate matter per 1000 pounds of exhaust gas, whichever is more restrictive.

2. Sources on which construction or modification was commenced on or before April 1, 1972 may not emit more than 0.20 pounds of particulate matter per 1000 pounds of exhaust gas.

(d) When a direct or portable source is subject to the emissions limitations of par. (c) or (e), the owner or operator shall not exceed the following increments of progress in achieving compliance commencing with the nonattainment determination under s. NR 154.03 (1):

1. Submit plans for compliance within 6 months.

2. Award any necessary contracts within 12 months.

3. Commence construction, installation or modification of any emission control system within 24 months.

4. Complete construction, installation or modification of any emission control system within 30 months.

5. Achieve final compliance with the applicable emission limitations and so certify to the department within 33 months.

(e) Notwithstanding par. (c), any cupola may emit up to, but not more than 0.25 pounds of particulate matter per 1000 pounds of exhaust gas.

(4) PARTICULATE EMISSION LIMITS FOR FUEL BURNING INSTALLATIONS. No person shall cause, allow, or permit the emission of particulate matter to the ambient air from any indirect heat exchanger, power or heating plant, fuel-burning installation, or pulp recovery furnace with maximum heat input more than one million BTU per hour in excess of one of the following limitations:

(a) All installations on which construction or modification is commenced after April 1, 1972 shall meet the emission limitations of this paragraph.

1. Installations of 250 million BTU per hour or less except as provided in subd. 2. hereof: 0.15 pounds of particulate matter per million BTU input to any stack.

2. Installations of 100 million BTU per hour or less which are not located in the Southeast Wisconsin Intrastate AQCR and which burn only wood, or wood simultaneously with liquid or gaseous fossil fuel: 0.5 pounds of particulate matter per million BTU input to any stack except that installations located in subregion 1 of the Lake Michigan Intrastate AQCR shall meet the requirements of sub. (4) (b) 2.a.

3. Installations of more than 250 million BTU per hour: 0.10 pounds of particulate matter per million BTU input to any stack.

(b) All installations on which construction or modification was commenced on or before April 1, 1972 shall meet the emission limitations of this paragraph.

1. Installations throughout the state shall meet the following emission limitations:

a. All installations: emissions determined by use of figure 2 of the ASME Standard number APS-1 with the maximum emission irrespective of stack height of 0.60 pounds of particulate matter per million BTU input to any stack.

Note: See american society of mechanical engineers standard number APS-1, second edition, November, 1968, copyright 1969. Copies of standard number APS-1 are available for inspection in the offices of department of natural resources, the secretary of state and revisor of statutes, Madison, Wisconsin and may be obtained for personal use from the American Society of Mechanical Engineers, 345 East 47th Street, New York, New York 10017.

2. Installations located in subregion 1 of the Lake Michigan Intrastate AQCR; in addition to meeting the emission limitations of sub. (4) (b) 1.a. of this section, these installations shall, by July 31, 1975, meet the following emission limitations:

a. All installations: emissions determined by use of figure 2 of the ASME Standard number APS-1 with the maximum emission irrespective of stack height of 0.30 pounds of particulate matter per million BTU input to any stack.

3. Installations located in the Southeast Wisconsin Instrastate AQCR, in addition to meeting the emission limitations of sub. (4) (b) 1.a., shall meet the following requirements:

a. Installations of 250 million BTU per hour or less (heat input of an installation shall follow ASME Standard number APS-1); maximum emission defined by the equation, $E = 0.3 - 0.0006I$ where I is heat input in millions of BTU per hour and E is maximum allowable particulate emissions in pounds per million BTU to any stack.

b. Installations of more than 250 million BTU per hour: maximum emission of 0.15 pounds of particulate matter per million BTU input to any stack.

(c) In addition to meeting the requirements of par. (a) or (b), all installations located in or near a nonattainment area identified under s. NR 154.03 (1) for suspended particulate matter whose aggregate particulate emissions (excluding fugitive dust) may cause an impact on the

ambient air quality in such areas equal to or greater than one microgram per cubic meter (annual concentration) or 5 micrograms per cubic meter (maximum 24-hour concentration) as determined by the analysis under s. NR 154.03 shall meet the following RACT emission limitations:

1. Installations of 100 million BTU per hour or less: maximum emission of 0.24 pounds of particulate matter per million BTU input to any stack.

2. Installations of more than 100 million BTU per hour on which construction or modification commenced on or before April 1, 1972: maximum emission of 0.15 pounds of particulate matter per million BTU input to any stack.

3. Installations of more than 100 million BTU per hour but of not more than 250 million BTU on which construction or modification commenced after April 1, 1972: maximum emission of 0.15 pounds of particulate matter per million BTU input to any stack.

4. Installations of more than 250 million BTU per hour on which construction or modification commenced after April 1, 1972: maximum emission of 0.10 pounds of particulate matter per million BTU input to any stack.

(d) When an installation is subject to the emission limitations of par. (c) the owner or operator may not exceed the following increments of progress in achieving compliance commencing with the nonattainment determination under s. NR 154.03 (1):

1. Submit plans for compliance within 6 months.

2. Award any necessary contracts within 12 months.

3. Commence construction, installation or modification of any emission control system within 24 months.

4. Complete construction, installation or modification of any emission control system within 30 months.

5. Achieve final compliance with the applicable emission limitations and so certify to the department within 33 months.

(e) Notwithstanding par. (c) 1. or 2., any fuel burning installation of 250 million BTU per hour or less on which construction or modification was commenced on or before April 1, 1972 may emit up to, but not more than, an emission rate defined by the equation $E = 0.3 - 0.0006I$ (where I is the heat input in millions of BTU per hour and E is the maximum allowable particulate emissions in pounds per million BTU to any stack) if, as of March 1, 1980 for installations which may cause an impact on primary or associated secondary nonattainment areas, or as of March 1, 1982 for installations which may cause an impact on any other secondary nonattainment area, the installation has an emission rate based on original design or equipment performance test conditions (whichever is more restrictive) which is less than the limit set by the above equation, and the emission control system of such installations has not been allowed to degrade more than 0.05 pounds per million BTU from original design or acceptance performance test conditions.

(5) PARTICULATE EMISSION LIMITS FOR INCINERATORS. No person shall cause, suffer, allow, or permit particulate matter, concentrations corrected to 12% carbon dioxide, to be emitted to the ambient air from any incinerator in excess of one of the following limitations:

(a) All incinerators on which construction or modification is commenced after April 1, 1972 shall meet the emission limits of this paragraph.

1. Incinerators other than those specified in sub. (5) (a) 2. of this section; emissions in excess of:

a. Incinerators rated at 4,000 pounds of waste per hour or more: 0.15 pounds of particulate per 1,000 pounds of exhaust gas.

b. Incinerators rated at over 500 pounds of waste per hour and less than 4,000 pounds of waste per hour: 0.20 pounds of particulate per 1,000 pounds of exhaust gas.

c. Incinerators rated at 500 pounds of waste per hour or less other than prefabricated domestic incinerators below 5 cubic feet capacity: 0.30 pounds of particulate matter per 1,000 pounds of exhaust gas.

d. Prefabricated domestic incinerators below 5 cubic feet capacity shall not exceed the performance emission requirements prescribed by the United States of America Standards Institute for domestic incinerators, standard Z21.6.

e. United States of America Standards Institute Approval Requirements for Domestic Gas-Fired Incinerators, number Z21.6, approved December 28, 1966, copyright 1967. Copies of Approval Requirements Z21.6 are available for inspection in the office of department of natural resources, Pyare Square Building, and secretary of state and revisor of statutes, State Capitol, Madison, Wisconsin and may be obtained for personal use from American Gas Association, Inc., 605 Third Avenue, New York, N.Y. 10016.

Note: The department of natural resources is located at 101 S. Webster Street.

2. Sewage treatment plant sludge and grit incinerators on which construction or modification is commenced after February 1, 1975; emissions shall not exceed 1.30 pounds per ton of dry sludge or grit input (0.65 grams per kilogram of dry sludge or grit input).

(b) All incinerators on which construction or modification was commenced on or before April 1, 1972 shall meet the emission limits of this paragraph.

1. Incinerators located throughout the state; emissions in excess of:

a. Incinerators rated at over 500 pounds of waste per hour: 0.50 pounds of particulate per 1,000 pounds of exhaust gas.

b. Incinerators rated at 500 pounds of waste per hour or less: 0.60 pounds of particulate per 1,000 pounds of exhaust gas.

2. Incinerators located in subregion 1 of the Lake Michigan Intrastate AQCR or in the Southeast Wisconsin Intrastate AQCR; in addition to meeting the emission limits of sub. (5) (b) 1. of this section these incinerators shall, by July 31, 1975, meet the following emission limits:

a. Incinerators of 5 cubic feet capacity or more: 0.30 pounds of particulate per 1,000 pounds of exhaust gas.

b. Prefabricated domestic incinerators below 5 cubic feet capacity shall not exceed the performance emission requirements prescribed by the United States of America Standards Institute for domestic incinerators, standard Z21.6.

(6) VISIBLE EMISSIONS. No person shall cause, suffer, allow, or permit emissions into the ambient air from any direct or portable source in excess of one of the following limitations: Where the presence of uncombined water is the only reason for failure to meet the requirements of this subsection, such failure shall not be a violation of this section.

(a) All direct and portable sources on which construction or modification is commenced after April 1, 1972 shall meet the emission limits of this paragraph. In addition, all direct and portable sources located in subregion 1 of the Lake Michigan Intrastate AQCR or in the Southeast Wisconsin Intrastate AQCR on which construction or modification was commenced on or before April 1, 1972 shall, by July 31, 1975, meet the emission limits of this paragraph.

1. Direct or portable sources other than those specified in sub. (6) (a) 2. of this section; emissions of shade or density greater than number 1 of the Ringelmann chart or 20% opacity with the following exceptions:

a. When combustion equipment is being cleaned or a new fire started, emissions not to exceed number 4 of the Ringelmann chart or 80 % opacity for 5 minutes in any one hour. Combustion equipment may not be cleaned nor a fire started more than 3 times per day.

b. For stated periods of time, as permitted by the department, for such purpose as operating test, use of emergency or reserve equipment, or other good cause, provided no hazard or unsafe condition arises.

c. For direct or portable sources in operation on or before February 1, 1975, where performance test data taken concurrently with Ringelmann or opacity readings show the source to be in compliance with the emission limits but not the Ringelmann or opacity limits. In this case, Ringelmann or opacity limits shall be set at 0.5 Ringelmann or 10 % opacity above the average read during the stack test.

2. Direct or portable sources specified hereunder on which construction or modification is commenced after February 1, 1975; emissions of shade or density greater than:

a. Asphalt concrete plants (any combination of the following: dryers; systems for screening, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing asphalt concrete; and the loading, transfer, and storage systems associated with emission control systems): 20% opacity.

b. Petroleum refineries (fluid catalytic cracking unit catalyst regenerators and fluid catalytic cracking unit incinerator-waste heat boilers): 30% opacity, except for 3 minutes in any one hour.

c. Secondary lead smelters:

i. Blast or cupola furnaces and reverberatory furnaces: 20% opacity.

ii. Pot furnaces of more than 550 pounds (250 kilograms) charging capacity: 10% opacity.

d. Secondary brass and bronze ingot production plants:

i. Reverberatory furnaces of 2,205 pounds per hour (1,000 kilograms per hour) or greater production capacity: 20% opacity.

ii. Electric furnaces of 2,205 pounds per hour (1,000 kilograms per hour) or greater production capacity and blast or cupola furnaces of 550 pounds per hour (250 kilograms per hour) or greater production capacity: 10% opacity.

e. Sewage treatment plants (sewage sludge and grit incinerators): 20% opacity.

(b) All direct and portable sources on which construction or modification was commenced on or before April 1, 1972 shall meet the emission limits of this paragraph. Direct and portable sources located in subregion 1 of the Lake Michigan Intrastate AQCR or in the Southeast Wisconsin Intrastate AQCR shall also meet the requirements of sub. (6) (a) of this section.

1. All direct or portable sources; emissions of shade or density equal to or greater than number 2 of the Ringelmann chart or 40% opacity. Exceptions listed in sub. (6) (a) 1. of this section shall apply.

(7) RACT REQUIREMENTS FOR COKING OPERATIONS. (a) This subsection applies to all coking operations upon which construction or modification commenced before September 1, 1981. Notwithstanding any other provision of this section, all requirements of this subsection shall be met on or before September 1, 1981.

(b) Visible emissions from charging procedures shall be limited by the application of RACT. RACT includes:

1. The use and maintenance of suitable jumper pipes and leveling bar smoke boots,

2. The use and maintenance of suitable seals on larry car drop sleeves and leveling bar smoke boots,

3. The use and maintenance of a steam aspiration system which provides maximum safe levels of negative pressure on the oven chamber during the charging operation, and

4. The completion of each charging procedure (including sweeping excess coal into the oven just charged) as quickly as possible.

(c) Fugitive emissions from pushing operations shall be captured by a traveling hood and controlled to not more than 0.08 pounds of particulate matter per 1000 pounds of exhaust gas. Any emissions escaping capture may not exceed 20% opacity for each pushing operation, as determined by the average of 6 consecutive observations made at 15 second intervals.

(d) There may be no visible emissions from 90% of the doors of all coke ovens in use; 95% of all coke oven charging port lids on ovens in use; and 90% of all offtake piping on ovens in use, except those open for

charging, pushing, cleaning, and maintenance as determined by a one pass observation.

(e) Quench towers for the application of water on hot coke shall be equipped with grit arrestors or equivalent equipment approved by the department. Water used in quenching shall not include coke by-product plant effluent, and total dissolved solids in make-up quenching water shall be less than 750 milligrams per liter.

(f) Coke oven combustion stacks may not emit more than 0.10 pounds of particulate matter per 1000 pounds of exhaust gas or have visible emissions greater than 20% opacity.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; r. and recr. (3) to (6), r. (7), Register, June, 1975, No. 234, eff. 7-1-75; emerg. am. (4) (b) 3, eff. 12-3-75; am. (4) (a) 1. a. and (4) (b) 3. (intro.), r. and recr. (4) (b) 3. a., Register, April, 1976, No. 244, eff. 5-1-76; am. (4) (a), Register, November, 1976, No. 251, eff. 12-1-76; r. and recr. (1) to (4), Register, September, 1979, No. 285, eff. 10-1-79; cr. (2) (d) and (e), (3) (f), (g) and (h), (4) (g), (h) and (i), Register, February, 1981, No. 302, eff. 3-1-81; am. (2) (b) and (c), (3) (c) to (e), (4) (c), (d) and (f), r. (2) (d) and (e), (3) (f) to (h), (4) (e) and (g) to (i), cr. (7), Register, August, 1981, No. 308, eff. 9-1-81; r. (2) (b) 1., ren. (2) (b) 2., 3. and 4. to be (2) (b) 1. to 3., renum. (2) (c) to be (2) (d) and am., cr. (2) (c), Register, March, 1982, No. 315, eff. 4-1-82.

NR 154.12 Control of sulfur emissions. (1) GENERAL LIMITATIONS. No person shall cause, suffer, allow, or permit emission of sulfur or sulfur compounds into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. The limitation on sulfur content of stand-by fuel is specified in s. NR 154.16 and the limitation on total reduced sulfur from pulping operations is specified in s. NR 154.18 (2).

(2) SULFUR LIMITATIONS. No person shall cause, suffer, allow, or permit sulfur dioxide to be emitted to the ambient air in amounts greater than:

(a) New or modified fossil fuel-fired steam generators rated at over 250 million BTU per hour:

1. Firing of liquid fossil fuel: 0.80 pounds of SO_2 per million BTU input.

2. Firing of solid fossil fuel: 1.2 pounds of SO_2 per million BTU input.

(b) New or modified sulfuric acid plants other than those utilized primarily as a means of preventing emission to the ambient air of sulfur dioxide or other sulfur compounds: 4.0 pounds of SO_2 per ton of acid produced.

(c) In the Southeast Wisconsin Intrastate AQCR installations of 250 million BTU per hour or less (heat input of an installation shall follow ASME standard number APS-1) in addition to meeting the emission limits of s. NR 154.11 (4), shall not burn coal with a sulfur content exceeding 1.11 pounds per million BTU in the coal.

(3) PETROLEUM REFINERIES. No person shall cause, suffer, allow or permit the release into the atmosphere or the burning of any fuel gas in an incinerator-waste heat boiler or process heater which contains greater than 0.10 grains of hydrogen sulfide (H_2S) per dry cubic foot at standard conditions (0.23 grams per dry cubic meter at standard conditions) unless the gases resulting from combustion are treated in a man-

ner which prevents the release of sulfur dioxide to the atmosphere as effectively as controlling the concentration of H_2S in the fuel gas being burned.

(4) BROKAW RACT SULFUR LIMITATIONS. (a) No person shall cause, allow or permit sulfur dioxide to be emitted to the ambient air within the geographical boundaries of the village of Brokaw, Marathon county from any direct source on which construction or modification was commenced prior to January 1, 1980 in amounts greater than:

1. Any liquid fossil fuel fired steam generating boiler:

a. Height above ground of emission point of less than 160 feet: that occurring from firing fuel oil with a sulfur content equal to or less than .22% by weight.

b. Height above ground of emission point of 160 feet or more: that occurring from firing fuel oil with a sulfur content equal to or less than 3.0% by weight.

2. Any Copeland recovery system: 113 pounds per hour.

3. Any pulp and papermill cooking acid plant: 22 pounds per hour.

4. Any pulp digester blow stack: 20 pounds per hour.

(b) When a source is subject to the emission limitations of par. (a), the owner or operator shall not exceed the following increments of progress in achieving compliance, commencing with the nonattainment determination under s. NR 154.03 (1):

1. Submit plans for achieving compliance within 6 months.

2. Award any necessary contract within 8 months.

3. Where physical alteration of the source is necessary to achieve compliance, commence construction within 10 months and complete construction within 20 months.

4. Where only fuel modification or switching is necessary to achieve compliance, commence operation using new fuel within 15 months.

5. Achieve final compliance with the applicable emission limitations and so certify to the department within 3 months of completion of construction or commencement of operation using new fuel.

6. Notwithstanding the increments of progress specified in this paragraph, all sources to which par. (a) applies shall achieve final compliance and so certify to the department on or before December 31, 1982.

(5) MADISON RACT SULFUR LIMITATIONS. (a) No person shall cause, allow or permit sulfur dioxide to be emitted to the ambient air within the geographical boundaries of the city of Madison, Dane county, from any direct source on which construction or modification was commenced prior to November 1, 1979 in amounts greater than:

1. Any fossil fuel fired steam generating boiler rated at more than 25 million BTU heat input per hour but less than 100 million BTU heat input per hour firing solid fossil fuel or solid fossil fuel in combination

with solid, liquid or gaseous fuels: 7.0 pounds of sulfur dioxide per million BTU heat input.

2. Any fossil fuel fired steam generating boiler rated at equal to or greater than 100 million BTU heat input per hour firing solid fossil fuel or solid fossil fuel in combination with solid, liquid or gaseous fuels:

a. Any electrical utility boiler: 4.25 pounds of sulfur dioxide per million BTU heat input.

b. Any other boiler:

1) Height above ground of emission point of less than 180 feet: 2.5 pounds of sulfur dioxide per million BTU heat input.

2) Height above ground of emission point of 180 to 220 feet: X pounds of sulfur dioxide per million BTU heat input, where $X = 10^{[0.0089\ (\text{Emission Point Height}) - 1.18]}$.

3) Height above ground of emission point of more than 220 feet: 5.8 pounds of sulfur dioxide per million BTU heat input.

3. Any fossil fuel fired steam generating boiler rated at more than 25 million BTU heat input per hour firing liquid fossil fuel or liquid fossil fuel in combination with liquid or gaseous fuels:

a. Distillate fuel oil: that occurring from firing a distillate fuel oil with a sulfur content equal to or less than 0.5% by weight.

b. Residual fuel oil: that occurring from firing a residual fuel oil with a sulfur content equal to or less than 1.1% sulfur by weight.

(b) When a source is subject to the emission limitations of par. (a), the owner or operator shall not exceed the following increments of progress in achieving compliance, commencing with the nonattainment determination under s. NR 154.03 (1):

1. Submit plans for achieving compliance within 6 months.

2. Award any necessary contracts within 9 months.

3. Where physical alteration of the source is necessary to achieve compliance, commence construction within 12 months and complete construction within 30 months.

4. Where only fuel modification or switching is necessary to achieve compliance, commence operation using new fuel within 21 months.

5. Achieve final compliance with the applicable emission limitations and so certify to the department within 3 months of completion of construction or commencement of operation using new fuel.

6. Notwithstanding the increments of progress specified in this paragraph, all boilers to which par. (a) applies shall achieve final compliance and so certify to the department on or before December 31, 1982.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72;cr. (3), Register, June, 1975, No. 234, eff. 7-1-75;cr. (2) (c), Register, April, 1976, No. 244, eff. 5-1-76; cr. (5), Register, November, 1979, No. 287, eff. 12-1-79; cr. (4), Register, January, 1980, No. 289, eff. 2-1-80.

NR 154.13 Control of organic compound emissions. (1) GENERAL LIMITATIONS. (a) No person shall cause, allow or permit organic com-

pound emissions into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution.

(b) No person shall cause, allow or permit organic compounds to be used or handled without using good operating practices and taking reasonable precautions to prevent the spillage, escape or emission of organic compounds, solvents or mixtures. Such precautions shall include, but are not limited to:

1. Use of caution to prevent spillage or leakage when filling tanks, trucks or trailers.

2. Use of caution when filling automobile tanks to prevent spillage.

(c) Disposal of VOC wastes. 1. Effective August 1, 1979, no person shall cause, allow, or permit the disposal of more than 5.7 liters (1.5 gallons) of any liquid VOC waste, or of any liquid, semisolid or solid waste materials containing more than 5.7 liters (1.5 gallons) of any VOC, in any one day from a facility in a manner that would permit their evaporation into the ambient air during the ozone season. This includes, but is not limited to, the disposal of VOC which must be removed from VOC control devices so as to maintain the control devices at their required operating efficiency.

2. Disposal during the ozone season shall be by methods approved by the department, such as incineration, recovery for reuse, or transfer in closed containers to an acceptable disposal facility, such that the quantity of VOC which evaporates into the ambient air does not exceed 15% (by weight) or 5.7 liters (1.5 gallons) in any one day, whichever is larger.

(2) STORAGE OF ORGANIC COMPOUNDS. (a) Storage of petroleum liquids. 1. Applicability. a. The storage, monitoring and maintenance requirements of subds. 2., 3. and 4. apply to all storage vessels for petroleum liquids of more than 151,412 liter (40,000 gallon) capacity on which construction or modification is commenced after July 1, 1975, with the exception of:

1) Storage vessels being used for number 2 through number 6 fuel oils as specified in ASTM-D-396-73, gas turbine fuel oils numbers 2-GT through 4-GT as specified in ASTM-D-2880-71, or diesel fuel oils numbers 2-D and 4-D as specified in ASTM-D975-73.

Note: See American Society for Testing and Materials, Part 17, 1973. Copies of applicable standards from Part 17; Petroleum Products - Fuels, Solvents, Burner Fuel Oils, Lubricating Oils, Cutting Oils, Lubricating Greases, Hydraulic Fluids; 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 ASTM, 1916 Race Street, Philadelphia, PA 19103.

2) Storage vessels for the crude petroleum or condensate stored, processed or treated at a drilling and production facility outside a standard metropolitan statistical area prior to custody transfer.

3) Pressure vessels which are designed to operate at pressures in excess of 104 kPa (15 psig) without emissions except under emergency conditions.

4) Subsurface caverns or porous rock reservoirs.

5) Underground tanks if the total volume of petroleum liquids added to and taken from a tank annually does not exceed twice the volume of the tank.

b. Effective July 1, 1980, the maintenance requirements of subd. 4. apply to all storage vessels for petroleum liquids of more than 7,571 liter (2,000 gallon) capacity.

c. Effective August 1, 1979, subd. 5. applies, subject to the provisions of sub. (12), to all fixed roof storage vessels with capacities greater than 151,412 liters (40,000 gallons) with the exception of those having capacities less than 1,600,000 liters (416,000 gallons) used to store crude petroleum and condensate prior to custody transfer.

d. Effective April 1, 1981, subd. 6. applies, subject to the provisions of sub. (12) (d) or (e), to all storage vessels equipped with external floating roofs having capacities greater than 151,412 liters (40,000 gallons) with the exception of:

1) Storage vessels having capacities less than 1,500,000 liters (396,270 gallons) used to store crude petroleum and condensate prior to custody transfer.

2) Storage vessels used to store waxy, heavy pour crude petroleum.

3) Storage vessels used solely for petroleum liquids with a true vapor pressure of less than 10.5 kPa (1.52 psia).

4) Storage vessels used solely for petroleum liquids with a true vapor pressure of less than 27.6 kPa (4.0 psia), and which are of welded construction, and presently possess a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid filled type seal, or equally effective alternative control, approved by the department.

5) Storage vessels of welded construction, equipped with metallic-type shoe primary seal which has a secondary seal from the top of the shoe seal to the tank wall.

e. Effective April 1, 1981, subd. 7. applies to all storage vessels with capacities greater than 151,412 liters (40,000 gallons) equipped with external floating roofs without secondary seals or their approved equivalent.

2. Storage requirements. The owner or operator of any storage vessel to which this subdivision applies shall store petroleum liquids as follows:

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