

- b. Sampling port locations.
- c. Sampling point positions of each port.

5. A sketch or sketches showing the relative position and elevations of all processes or operations venting to the test stack and also the position of the sampling ports relative to the nearest upstream and downstream gas flow disturbance.

(b) Performance tests or stack tests shall follow the guiding principles described in ASME performance test code 27 with a sampling train utilizing a velocity measuring probe during sampling and an integrating gas volume meter for existing direct or portable sources, or sampling methods required or approved by the United States environmental protection agency for direct or portable sources and for hazardous pollutants. Other sampling methods may be prescribed by the department or must have prior approval of the department.

(bm) American Society of Mechanical Engineers Performance Test Code 27, copyright 1957. Copies of PTC-27-1957 are available for inspection in the offices 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 the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.

(d) Test results shall be furnished to the department within 30 days unless the department provides, in writing, a 30-day extension of this deadline.

(3) The department may require provisions for instrumentation to determine the efficiency of control equipment. Such instrumentation may include devices to measure voltage, or pressure drop across the control equipment; amperage, exhaust flow rates, or scrubbing solution flow rates to, or in the control equipment; temperature in the control equipment; or other information determined to be necessary by the department.

(4) No person shall deny entry at any reasonable time to an authorized representative of the department for purposes of inspection, or at any time when an air pollution episode condition exists or is believed imminent.

(5) The department shall furnish a report of stack or performance tests or inspections it conducts to a representative of the source.

(6) A person shall promptly report to the department within 8 hours following the onset of any event not reported in advance to the department pursuant to subsection (7) of this section or NR 154.09 (1) (b) which causes an emission limit, including the visual emission limit, to be exceeded. A person shall also report to the department emissions in excess of the emissions provided for in a plan approved pursuant to NR 154.09 (1) (b). The person shall report the cause of the increased emission, the period of time considered necessary for correction, and measures taken to minimize emissions during the period.

(7) A person shall report to the department in advance schedules for planned shutdown and startup of air pollution control equipment and the measures taken to minimize the down time of the control equipment. Scheduled maintenance or startup of other equipment which causes an emission limit to be exceeded shall also be reported in advance to the department.

(8) No person shall cause, suffer, allow, or permit the installation or use of any machine, equipment or other device for dilution of emissions which would otherwise be in violation of these rules, unless written approval has been obtained from the department.

(9) Results of stack or performance tests submitted to the department shall include information from the instrumentation specified in subsection (4) taken at the time of the tests, along with copies of the original data sheets, nozzle and stack diameter, weight of material sampled and other information needed to evaluate the stack or performance tests.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; r. and recr. (2), r. (3), renum. (4) to (6) to be (3) to (5), renum. (7) to be (6) and am., cr. (7), Register, June, 1975, No. 234, eff. 7-1-75; r. (2) (c), Register, April, 1976, No. 224, eff. 5-1-76.

NR 154.07 County and regional programs. Approved local programs must be compatible with these rules and the implementation plan, avoid duplication, and provide:

- (1) Sufficient staff and resources to carry out the program.
- (2) An air pollution control officer responsible for the program.
- (3) Record keeping and reporting to the department of emission inventory, air quality monitoring, enforcement status, and other data on a standardized basis and in the form prescribed by the department.
- (4) An agreement defining the responsibilities of the department and local agency to achieve an effective program.
- (5) Countywide or regionwide enforcement of regulations involving:
 - (a) Open, backyard, and leaf burning.
 - (b) Ringelmann and opacity standards on stationary, semistationary, and mobile sources.
 - (c) Incinerators rated at or less than 50 pounds per hour of solid wastes (dry basis) or liquid wastes.
 - (d) Fugitive dust, odors, and other pollutants from sources other than those specified in section NR 154.04.
 - (e) Fugitive dust, odors, and other pollutants from sources specified in section NR 154.04, where authorized by the department.
 - (f) Zoning restrictions where air pollution considerations are involved.

(6) Consultation on traffic planning, approval, and implementation where air pollution considerations are involved, such as freeways, highway relocation and highway widening.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; am. (5) (c), Register, June, 1975, No. 234, eff. 7-1-75.

NR 154.08 Enforcement and penalties. Whenever the department has reason to believe these rules have been violated, it may issue a written notice, which may include an order.

(1) Within 10 days after the date of notice the aggrieved person may make a written request for a hearing.

(2) **Penalties:** Any person who violates this chapter, or who fails, neglects, or refuses to obey any general or special order of the department, shall forfeit not less than \$10 nor more than \$5,000, for each violation, failure, or refusal. Each day of continued violation is a separate offense. While the order is suspended, stayed, or enjoined, such penalty shall not accrue.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72.

NR 154.09 Emissions prohibited. (1) No person shall cause, suffer, allow, or permit emissions into the ambient air in excess of the limits set in these rules, except:

(a) When an approved program or plan with a time schedule for correction has been undertaken and correction is being pursued with diligence.

(b) When emissions in excess of the limits are temporary and due to scheduled maintenance, startup, or shutdown of operations carried out in accord with a plan and schedule approved by the department.

(c) The use of emergency or reserve equipment needed for meeting of high peak loads, testing of the equipment, or other uses approved by the department. Such equipment must be specified in writing as emergency or reserve equipment by the department. Upon startup of this equipment notification must be given to the department which may or may not give approval for continued equipment use.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; r. and recr. (1) (b) and (c), Register, June, 1975, No. 234, eff. 7-1-75.

NR 154.10 Limitations on open burning. (1) Open burning is prohibited with the following exceptions:

(a) Burning of brush or weeds on agricultural lands.

(b) Fires set for practice and instruction of firemen, or testing of fire fighting equipment.

(c) Backfires to control forest fires or fires set for forest or wildlife habitat management with approval of the department where no reasonable alternative is available.

(d) Burning of explosive or dangerous material for which there is no other safe means of disposal.

(e) Burning of small amounts of dry combustible rubbish (not to include wet combustible rubbish, garbage, oily substances, asphalt,

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plastic or rubber products) except where prohibited by local ordinance.

(f) Burning at rural or isolated solid waste disposal sites outside of the Southeast Wisconsin Intrastate AQCR that serve less than 2,500 people and are licensed to burn waste under section NR 151.18 of the solid waste disposal standards, or burning of special waste where permits are obtained from the department.

(g) Outdoor fires for cooking, ceremonies, or recreation.

(h) Burning of trees, limbs, stumps, brush or weeds for clearing or maintenance of rights-of-ways outside of the Southeast Wisconsin Intrastate AQCR.

(i) Burning of trees, wood, brush, or demolitions materials (excluding asphaltic, or rubber materials) by such methods approved by the department.

(j) Small open flames for welding, acetylene torches, safety flares heating tar, or similar applications.

(k) Burning of gaseous or liquid waste in a manner approved by the department.

(1) Burning of small amounts of dry leaves and dry plant clippings except where prohibited by local ordinance.

(2) All allowed open burning shall be conducted in a safe pollution free manner, when wind and weather conditions are such as to minimize adverse effects and in conformance with local and state fire protection regulations.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; am. (1) (f) and (k), renum. (1) (m) to be (1) (l), Register, June, 1975, No. 234, eff. 7-1-75.

NR 154.11 Control of particulate emissions. (1) GENERAL LIMITATIONS. No person shall cause, suffer, allow, or permit particulate matter to be emitted into the ambient air which substantially contributes to exceeding of an air standard, or creates air pollution.

(2) **FUGITIVE DUST.** No person shall cause, suffer, allow, or permit any materials to be handled, transported, or stored without taking precautions to prevent particulate matter from becoming airborne. Nor shall a person allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted or demolished without taking such precautions. Such precautions shall include, but not be limited to:

(a) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, or construction operations.

(b) Application of asphalt, oil, water, suitable chemicals, or plastic covering on dirt roads, material stockpiles, and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon, odor, or water pollution problem.

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

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

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

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

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

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

a. Any process not otherwise covered by paragraph (3) (a) of this section: emissions calculated by the use of the equation, $E = 3.59 P^{.42}$ for process weight rates up to 60,000 pounds per hour; by use of the equation $E = 17.31 P^{.3}$ 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 section NR 154.11 (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):

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

ii. 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 paragraph (4) (a) i.e.i. of this section 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 limits of this paragraph.

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

a. Cupolas: 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.

(4) PARTICULATE EMISSION LIMITS FOR FUEL BURNING INSTALLATIONS. No person shall cause, suffer, 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 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 limits of this paragraph.

1. Installations specified hereunder; emissions in excess of:

a. Installations of 250 million BTU per hour or less: 0.15 pounds of particulate matter per million BTU to any stack.

b. 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 limits of this paragraph.

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

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.

b. 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 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 the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.

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

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 Intrastate AQCR; in addition to meeting the emission limits of (4) (b) 1.a. of this section by July 31, 1975, these installations shall by July 1, 1976 submit a plan and implementation schedule acceptable to the department for meeting the following requirements as expeditiously as possible:

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. Installations with maximum heat input less than one million BTU per hour shall not be required to meet particulate emission limits of NR 154.11 (4). Installations located in areas which have not attained ambient air quality standards may be required to install best available control technology even though best available control technology might not be required to meet the emission limits established by the above equation.

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.

(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 (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.

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 (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 (6) (a) 2. of this section; emissions of shade or density greater than number 1 of the Ringelmann chart or 20 percent 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 percent opacity.

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

c. Secondary lead smelters:

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

ii. Pot furnaces of more than 550 pounds (250 kilograms) charging capacity: 10 percent 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 percent 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 subsection (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 (6) (a) 1. of this section shall apply.

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.

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 section NR 154.16 and the limitation on total reduced sulfur from pulping operations is specified in section 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 SO₂ per million BTU input.

2. Firing of solid fossil fuel: 1.2 pounds of SO₂ 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 SO₂ 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 section NR 154.11(4), Wis. Adm. Code, shall not burn coal with a sulphur 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 (H₂S) 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 manner which prevents the release of sulfur dioxide to the atmosphere as effectively as controlling the concentration of H₂S in the fuel gas being burned.

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.

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

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

(2) STORAGE OF PETROLEUM LIQUIDS. (a) The storage, monitoring and maintenance requirements of subsections (2) (b), (c) and (d) of this section shall apply to all new or modified storage vessels for petroleum liquids of more than 40,000-gallon (151,412 liter) capacity, with the exception of:

1. Storage vessels for the crude petroleum or condensate stored, processed and/or treated at a drilling and production facility outside a Standard Metropolitan Statistical Area prior to custody transfer.

2. Pressure vessels which are designed to operate at pressures in excess of 15 pounds per square inch gauge without emissions into the atmosphere except under emergency conditions.

3. Subsurface caverns or porous rock reservoirs.

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

1. If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 1.5 pounds per square inch absolute (78 millimeters of mercury) but not greater than 11.1 pounds per square inch absolute (570 millimeters of mercury), the storage vessel shall be equipped with a floating roof, a vapor recovery system or their equivalents.

2. If the true vapor pressure of the petroleum liquid, as stored, is greater than 11.1 pounds per square inch absolute (570 millimeters of mercury), the storage vessel shall be equipped with a vapor recovery system or its equivalent.

(c) Monitoring requirements. 1. The owner or operator of any storage vessel to which this section applies shall, for each such storage vessel, maintain a file of each type of petroleum liquid stored, the typical Reid vapor pressure of each type of petroleum liquid stored and the dates of storage. Dates on which the storage vessel is empty shall be indicated.

2. The owner or operator of any storage vessel to which this section applies shall, for each such storage vessel, determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if:

a. The petroleum liquid has a true vapor pressure, as stored, greater than 0.5 pounds per square inch absolute (26 millimeters of mercury) but less than 1.5 pounds per square inch absolute (78 millimeters of mercury) and is stored in a vessel other than one equipped with a floating roof, a vapor recovery system or their equivalents; or

b. The petroleum liquid has a true vapor pressure, as stored, greater than 9.1 pounds per square inch absolute (470 millimeters of

mercury) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent.

3. The average monthly storage temperature is an arithmetic average calculated for each calendar month, or portion thereof if storage is for less than a month, from bulk liquid storage temperatures determined at least once every 7 days.

4. The true vapor pressure shall be determined by the procedures in API Bulletin 2517. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the department requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, that Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available on request to the department when typical Reid vapor pressure is used.

(cm) American Petroleum Institute, Bulletin 2517 *Evaporation Loss from Floating Roof Tanks*, February, 1962. Copies of Bulletin 2517, *Evaporation Loss from Floating Roof Tanks* are available for inspection in the office of the 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

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