

bustion are emitted directly into the ambient air without passing through a stack or chimney.

(23) Organic compounds: Any compound containing carbon and hydrogen or containing carbon and hydrogen in combination with any other element and having a vapor pressure of 1.5 pounds per square inch absolute or greater under actual storage conditions.

(24) Particulate or particulate matter: Any material which exists as a solid at standard conditions.

(25) Performance test: Measurements of emissions or other procedures used for the purpose of determining compliance with a standard of performance.

(26) Person: Any individual, corporation, cooperative, owner, tenant, lessee, syndicate, partnership, firm, association, trust, estate, public or private institution, political subdivision of the state of Wisconsin, any state agency, or any legal successor, representative, agent, or agency of the foregoing.

(27) Parts per million (ppm): Parts of a contaminant per million parts of gas by volume.

(28) Process weight: The total weight of all materials introduced into any source operation, except liquid fuels, gaseous fuels, and air.

(29) Regulating authority: The agency which has jurisdiction over a source.

(30) Ringelmann chart: 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.¹

(31) Secretary: The secretary of the department of Natural Resources, state of Wisconsin.

(32) Semistationary sources: Sources that have the capability of emitting while moving but generally do not. (Including but not limited to diesel cranes, diggers and other construction equipment.)

(33) Smoke: All products of combustion of sufficient density to be observable including but not limited to carbon, dust, fly ash, and other particles.

(34) Source: Any installation, location, or operation which emits air contaminants into the ambient air.

(35) Stack: Any device or opening designed or used to emit air contaminants to the ambient air.

(36) Standard conditions: A temperature of 25° centigrade and a pressure of 760 millimeters of mercury.

(37) Standby fuel: Any fuel normally used less than 15 days per year and in place of a regular fuel.

(38) Start up: The initial use of a piece of equipment, plant, or source.

(39) Total reduced sulfur (TRS): Hydrogen sulfide, mercaptans, dimethyl sulfide, dimethyl disulfide, and any other organic sulfides.

(40) Uncombined water: Water not chemically or physically bound to other materials.

(41) Air pollution episode levels:

(a) "Alert": The alert level is that concentration of pollutants at which first stage control actions are to begin. An alert will be declared when any one of the following levels is reached at any monitoring site and meteorological conditions are such that the pollutant

¹ Ringelmann Chart published Dec. 1950 by the U.S. Bureau of Mines.

concentrations can be expected to remain at the above levels for 12 or more hours or increase unless control actions are taken.

1. The SO₂ dose is equal to or greater than 2.8 ppm-hr. (7,500 μg-hr/m³) for any consecutive 8-hour period in the preceding 16 hours.

2. The particulates dose is equal to or greater than 28 COHs-hr. (3,500 μg-hr/m³) for any consecutive 8-hour period in the preceding 16 hours.

3. SO₂ and particulate combined—product of SO₂, ppm, 24-hour average, and COHs, 24-hour average equal to 0.2 or product of SO₂, μg/m³, 24-hour average, and particulate μg/m³, 24-hour average equal to 65 x 10³.

4. The CO dose is equal to or greater than 120 ppm-hr. (138 mg-hr/m³) for any consecutive 8-hour period in the preceding 16 hours.

5. The oxidant (O₃) dose is equal to or greater than 0.4 ppm-hr. (800 μg-hr/m³) for any consecutive 4-hour period in the preceding 8 hours.

6. The NO₂ dose is equal to or greater than 2.4 ppm-hr. (4,510 μg-hr/m³) for any consecutive 4-hour period in the preceding 8 hours.

(b) "Warning": The warning level indicates that air quality is continuing to degrade and that additional control actions are necessary. A warning will be declared when any one of the following levels is reached at any monitoring site and meteorological conditions are such that pollutant concentrations can be expected to remain at the above levels for 12 or more hours or increase unless control actions are taken.

1. The SO₂ dose is equal to or greater than 5.6 ppm-hr. (15,000 μg-hr/m³) for any consecutive 8-hour period in the preceding 16 hours.

2. The particulates dose is equal to or greater than 56 COHs-hr. (7,000 μg-hr/m³) for any consecutive 8-hour period in the preceding 16 hours.

3. SO₂ and particulate combined—product of SO₂, ppm, 24-hour average and COHs, 24-hour average equal to 0.3 or product of SO₂, μg/m³, 24-hour average and particulate μg/m³, 24-hour average equal to 261 x 10³.

4. The CO dose is equal to or greater than 240 ppm-hr. (275 mg-hr/m³) for any consecutive 8-hour period in the preceding 16 hours.

5. The oxidant (O₃) dose is equal to or greater than 1.2 ppm-hr. (2,000 μg-hr/m³) for any consecutive 4-hour period in the preceding 8 hours.

6. The NO₂ dose is equal to or greater than 4.8 ppm-hr. (9,040 μg-hr/m³) for any consecutive 4-hour period in the preceding 8 hours.

(c) "Emergency": The emergency level indicates that air quality is continuing to degrade to a level that should never be reached and that the most stringent control actions are necessary. An emergency will be declared when any one of the following levels is reached at any monitoring site and meteorological conditions are such that this

Note: Copies of Fundamentals of Smoke Abatement, December, 1950, Ringelmann Chart, Information Circular 7588, are available for inspection at the offices of Department of Natural Resources, Pyare Square Building, and Secretary of State and Revisor of Statutes, Capitol, Madison, Wisconsin, and may be procured for personal use from the United States Department of Interior, Washington, D. C.

condition can be expected to continue for 12 or more hours.

1. The SO₂ dose is equal to or greater than 8.0 ppm-hr. (21,500 μg-hr/m³) for any consecutive 8-hour period in the preceding 16 hours.

2. The particulates dose is equal to or greater than 72 COHs-hr. (9,000 μg-hr/m³) for any 8-hour period in the preceding 16 hours.

3. SO₂ and particulate combined—product of SO₂ ppm, 24-hour average and COHs, 24-hour average equal to 1.2 or the product of SO₂ μg/m³, 24-hour average and particulate μg/m³, 24-hour average equal to 393 × 10³.

4. The CO dose is equal to or greater than 320 ppm-hr. (368 mg-hr/m³) for any consecutive 8-hour period in the preceding 16 hours.

5. The oxidant (O₃) dose is equal to or greater than 1.4 ppm-hr. (2,800 μg-hr/m³) for any consecutive 4-hour period in the preceding 8 hours.

6. The NO₂ dose is equal to or greater than 6.4 ppm-hr. (12,050 μg-hr/m³) for any consecutive 4-hour period in the preceding 8 hours.

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

NR 154.02 Applicability. The provisions of this chapter govern the release of air contaminants to the ambient air and the regulation of them by:

(1) The department or

(2) A countywide or regional program approved by the department.

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

NR 154.03 Registration of existing sources. When requested by the department a person shall furnish to the department information to locate and classify contaminant sources according to type, level, duration, characteristic, and such other information as may be necessary. The information shall be sufficient to evaluate the effect on air quality and the compliance with these rules.

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

NR 154.04 Application to construct or modify. (1) No person shall cause, suffer, allow, or permit the construction of a new air contaminant source, or the addition to, enlargement of, relocation, modification, or replacement of an existing source without prior written approval by the regulating authority. The applicant shall show by plans, specifications, and other data that the facility will operate without causing violation of these rules, and the ambient air quality standards, and will comply with the implementation plan requirements for approval.

(a) The submittal shall include dates of start of construction and expected completion.

(b) Approval to construct or modify is cancelled if work is not begun within 1 year of approval. Approval may be extended for 6 months on written request.

(c) Applications to construct or modify must be submitted to the regulating authority for all sources which:

1. Can burn coal, coke, or other solid fuel with 500 pounds or more per hour input.

2. Can burn 300 or more gallons per hour of fuel oil.

3. Can burn gas at more than 750,000 cubic feet per day.

4. Can incinerate over 500 pounds per hour. Incinerators this size are to be licensed under the solid waste disposal standards, Wis. Adm. Code chapter NR 151. A single submittal to the department of information for licensing under chapter NR 151 is sufficient for these rules.

5. Produce carbon black, charcoal, detergent and soap, explosives, hydrofluoric acid, nitric acid, paint, varnish, phosphoric acid, plastics, printing ink, sodium carbonate, sulfuric acid, dehydrated alfalfa, dried corn, roasted coffee, feed and grain, fish meal, fertilizers, smoked meats and sausage, starch, primary metals, ferroalloys, metallurgical coke, cast metals, asphalt roofing, asphaltic concrete, brick or clay products, calcium carbide, cement, ceramics, cleaned coal, concrete mix, desulfurized oil, fiber glass, frit glass, gypsum, lime, mineral wool, paper board, perlite, paper pulp, phosphate rock, gravel or sand, refined petroleum or petrochemical products, or wood products.

6. Use or produce asbestos, beryllium, cadmium, chromium, chlorine, fluorine, mercury, pesticides, radioactive material, their mixtures, or their compounds. This part shall not apply to laboratories, water chlorination facilities, or similar small sources.

7. Have uncontrolled emissions which exceed or are estimated to exceed 6 pounds per hour of any pollutant, or which cause odors, or which have emission controls or limits specified in these rules.

(d) Sources not included in subsection (1) (c) may be regulated by county, regional or local ordinances.

(e) Exemption from the requirement to make application to construct or modify under department or local rules does not relieve any person from compliance with the emission limits of this chapter.

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

NR 154.05 Action on applications. (1) If within 30 days after the receipt of plans, specifications, or other information as required in section NR 154.04 the department determines the source will not be in accordance with these rules, the implementation plan, or the air quality standards, it shall issue an order prohibiting the construction, installation, or establishment of the source. If the department does not issue such an order within the 30-day period the construction, installation, or establishment of the source may proceed in accordance with the plans, specifications or other information.

(a) When plans are disapproved or an order is issued to prohibit construction, the aggrieved person may request a hearing in accordance with the rules of the department.

(b) Failure of the department to issue a ruling or order does not relieve a person from compliance with the emission limits of this chapter.

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

NR 154.06 Operation and inspection of sources. (1) No person shall deny information or access to records relating to emissions to an authorized representative of the department.

(2) Information determined to be confidential in accordance with section 144.33, Wis. Stats., shall, upon certification of the applicant, be so treated by the department.

the latest in design of recovery furnace equipment, controls, and procedures. All sources shall be in compliance with this requirement not later than July, 1976.

(b) Noncondensibles from digesters and multiple-effect evaporators shall be treated to reduce the emission of TRS equal to the reduction achieved by thermal oxidation in a lime kiln. All sources shall be in compliance with this requirement by not later than July, 1973.

(c) No extensions beyond these time limits for implementation may be granted without formal application to the department which determines adequate justification.

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

NR 154.19 Control of hazardous pollutants. (1) GENERAL LIMITATIONS. No person shall cause, suffer, allow, or permit emissions into the ambient air of hazardous substances in such quantity, concentration, or duration as to be injurious to human health, plant or animal life unless the purpose of that emission is for the control of plant or animal life. Hazardous substances include but are not limited to the following materials, their mixtures, or compounds: Asbestos, Beryllium, Cadmium, Chromium, Chlorine, Fluorine, Lead, Mercury, Pesticides, or Radioactive material.

(2) **HAZARDOUS POLLUTANT LIMITATIONS.** Limitations of emissions of hazardous pollutants shall follow general or special orders issued by the department.

(3) No person shall cause, suffer, allow or permit emissions of mercury:

(a) In such quantity and duration as to cause the ambient air concentration to exceed $1 \mu\text{g}/\text{m}^3$, averaged over a 30-day period;

(b) In quantities greater than 2,300 grams (5.07 pounds) per 24-hour period from mercury cell chlor-alkali plants, or mercury ore processing facilities.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; cr. (3), Register, December, 1972, No. 204, eff. 1-1-73.

NR 154.20 Emergency emission control action programs. (1) GENERAL PROGRAM. (a) Any person responsible for the operation of a source of air contaminants which emits 0.25 tons per day or more of any air contaminant for which air standards have been adopted shall prepare emission control action programs consistent with good industrial practice and safe operating procedures, for reducing the emission of air contaminants into the outdoor atmosphere during periods of an AIR POLLUTION ALERT, AIR POLLUTION WARNING, or AIR POLLUTION EMERGENCY. Emission control action programs shall be designed to reduce or eliminate emissions of air contaminants into the outdoor atmosphere in accordance with the objectives set forth in Tables 1-5 of section NR 154.20 (2) (e).

(b) Emission control action programs as required under section NR 154.20 (1) (a) shall be in writing and show the source of air contamination, the approximate amount of reduction of contaminants, the approximate time required to effect the program, a brief description of the manner in which the reduction will be achieved during each stage of an air pollution episode, and such other information as the department shall deem pertinent.

(c) During a condition of AIR POLLUTION ALERT, AIR POL-

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LUTION WARNING, or AIR POLLUTION EMERGENCY emission control action programs as required by section NR 154.20 (1) (a) shall be made available on the premises to any person authorized to enforce the provisions of the department's episode procedure.

(d) Emission control action programs as required by section NR 154.20 (1) (a) shall be submitted to the department upon request within 60 days of the receipt of such request; such emission control action programs shall be subject to review and approval by the department. If, in the opinion of the department, such emission control action programs do not effectively carry out the objectives as set forth in Tables 1-5 of section NR 154.20 (2) (e); the department may disapprove said emission control action programs, state its reason for disapproval, and order the preparation of amended emission control action programs within the time period specified in the order. If the person responsible fails within the time period specified in the order to submit an amended emission control action program which in the opinion of the department meets the said objectives, the department may revise the emission control action programs to cause it to meet these objectives. Such revised program will thereafter be the emission control action program which the person responsible must put into effect upon declaration of an air pollution episode by the secretary.

(2) EMERGENCY EPISODE ORDERS. The following are orders which may be appropriate for use by the secretary under section 144.40, Wis. Stats., upon his declaration that an air pollution emergency episode exists for any air contaminants for which air standards have been adopted:

(a) *Air pollution alert:*

1. Any one or combination of air contaminants:

a. Any person responsible for the operation of a source of air contamination as set forth in section NR 154.20 (1) (a) shall take all AIR POLLUTION ALERT actions as required for such source of air contamination, and shall particularly put into effect the emission control action programs for an AIR POLLUTION ALERT.

2. Suspended particulate matter:

a. There shall be no open burning by any persons of tree waste, vegetation, refuse, or debris in any form.

b. The use of incinerators for the disposal of any form of solid waste shall be limited to the hours between 12:00 and 4:00 p.m.

c. Persons operating fuel-burning equipment which requires intermittent boiler lancing or soot blowing shall perform such operations, to the maximum extent possible, between the hours of 12:00 Noon and 4:00 p.m.

3. Nitrogen oxides:

a. There shall be no open burning by any persons of tree waste, vegetation, refuse, or debris in any form.

b. The use of incinerators for the disposal of any form of solid waste shall be limited to the hours between 12:00 Noon and 4:00 p.m.

(b) *Air pollution warning:*

1. Any one or combination of air contaminants:

a. Any person responsible for the operation of a source of air contamination as set forth in section NR 154.20 (1) (a) shall take all AIR POLLUTION WARNING actions as required for such source of

air contamination, and shall particularly put into effect the emission control action programs for an AIR POLLUTION WARNING.

2. Suspended particulate matter:

a. There shall be no open burning by any persons of tree waste, vegetation, refuse, or debris in any form.

b. The use of incinerators for the disposal of any form of solid waste or liquid waste shall be prohibited.

c. Persons operating fuel-burning equipment which requires intermittent boiler lancing or soot blowing shall perform such operations, to the maximum extent possible, between the hours of 12:00 Noon and 4:00 p.m.

3. Nitrogen oxides:

a. There shall be no open burning by any persons of tree waste, vegetation, refuse, or debris in any form.

b. The use of incinerators for the disposal of any form of solid waste or liquid waste shall be prohibited.

(c) *Air pollution emergency:*

1. Any one or combination of contaminants:

a. Any person responsible for the operation of a source of air contamination as described in section NR 154.20 (1) (a) shall take all AIR POLLUTION EMERGENCY actions as listed as required for such source of air contamination; and shall particularly put into effect the emission control action programs for an AIR POLLUTION EMERGENCY.

b. All manufacturing establishments except those included in section NR 154.20 (1) (a) will institute such action as will result in maximum reduction of air contaminants from their operations by ceasing, curtailing, or postponing operations which emit air contaminants to the extent possible without causing injury to persons or damage to equipment.

c. All places of employment described below shall immediately cease operations:

1. Mining and quarrying of nonmetallic minerals.

2. All contract construction work except that which must proceed to avoid physical harm.

3. Wholesale trade establishments, i.e., places of business primarily engaged in selling merchandise to retailers, to industrial, commercial, institutional or professional users, or to other wholesalers, or acting as agents in buying merchandise for or selling merchandise to such persons or companies.

4. All offices of local, county, and state government and any other public body; except those offices that must continue to operate in order to enforce the requirements of this order pursuant to statute.

5. All retail trade establishments except pharmacies and stores primarily engaged in the sale of food.

6. Banks, credit agencies other than banks, securities and commodities brokers, dealers, exchanges and services, offices of insurance carriers, agents and brokers, and real estate offices.

7. Wholesale and retail laundries, laundry services and cleaning and dyeing establishments, photographic studios, beauty shops, barber shops, shoe repair shops.

8. Advertising offices, consumer credit reporting, adjustment and collection agencies, duplicating, addressing, blueprinting, photocopying, mailing, mailing list and stenographic services, equipment rental services, commercial testing laboratories.

9. Automobile repair, automobile services, garages.

10. Establishments rendering amusement and recreation services including motion picture theatres.

11. Elementary and secondary schools, colleges, universities, professional schools, junior colleges, vocational schools, and public and private libraries.

d. There shall be no open burning by any person of tree waste, vegetation, refuse, or debris in any form.

e. The use of incinerators for the disposal of any form of solid or liquid waste shall be prohibited.

f. The use of motor vehicles is prohibited except in emergencies with the approval of local or state police.

(d) When the secretary determines that an Air Pollution Episode condition exists at one or more monitoring sites solely because of emissions from a limited number of sources, he may order such source or sources to put into effect the emission control action programs which are applicable for each episode stage.

(e) *Tables for emission reduction:*