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NR 154

STATE OF WISCONSIN)
DEPARTMENT OF NATURAL RESOURCES) SS

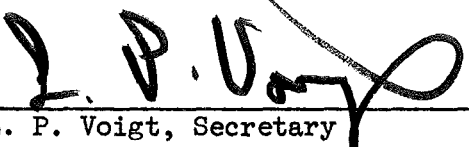
TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, L. P. Voigt, Secretary of the Department of Natural Resources, and custodian of the official records of said Department, do hereby certify that the annexed rules and regulations relating to repealing and recreating ambient air quality standards were duly approved and adopted by this Department on January 14, 1972.

I further certify that said copy has been compared by me with the original on file in this Department and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the Department at Pyare Square Building in the City of Madison, this 21st day of February, 1972.

(SEAL)


L. P. Voigt, Secretary

STATE OF WISCONSIN NATURAL RESOURCES BOARD

IN THE MATTER OF repealing and
recreating ambient air quality
standards.

ORDER NO. A-1-72

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING AND RECREATING RULES

Pursuant to authority vested in the State of Wisconsin Natural Resources Board by Section 144.31 (1) (a), Wisconsin Statutes, the Natural Resources Board hereby adopts rules as follows:

DEPARTMENT OF NATURAL RESOURCES
PROPOSED AIR POLLUTION CONTROL RULES
January 31, 1972
FOREWORD

Chapter 144, Wisconsin Statutes directs the Department of Natural Resources to organize a comprehensive program to enhance the quality, management, and protection of the state's air resources. These rules are one part of that program. Chapter 144 also stresses the role of county government in establishing local air pollution control programs in cooperation with the Department.

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

Nothing in these rules or in Chapter 144 prohibits a county or local jurisdiction from adopting more restrictive ordinances where local conditions indicate their need.

These rules, all or in part, may be adopted by reference by a county or municipality.

It shall be the policy of the Department to seek reasonable uniformity among local air pollution control ordinances in order to make the statewide comprehensive program more effective and less complicated for all persons concerned.

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

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NR 154.01 Definitions

- (1) Air contaminant: Dust, fly ash, particulate, smoke, soot, fume, mist fog, vapor, gas, odorous substance, radioactive substance, allergen, pathogen, or any combination thereof.
- (2) Air pollution: The presence in the ambient air of one or more air contaminants in such quantity and of such duration as is or tends to be injurious to human health and welfare, animal or plant life, property, or water quality, or would unreasonably interfere with the enjoyment of life or property, or would reduce the visibility on highways or navigable waters so as to create hazard, or would interfere with the safe operation of an airport.
- (3) AQCR: Air Quality Control Region.
- (4) Air Region: An area designated pursuant to federal or Wisconsin laws in which a program to maintain or achieve air standards is implemented on a regional basis.
- (a) "Southeast Wisconsin Intrastate AQCR": the counties of Kenosha, Racine, Milwaukee, Waukesha, Washington, Walworth and Ozaukee.
- (b) "Subregion 1 of the Lake Michigan Intrastate AQCR": the counties of Brown, Outagamie and Winnebago.
- (5) Ambient air: The portion of the atmosphere external to buildings and to which the general public has access.
- (6) ASME: American Society of Mechanical Engineers, 345 East 47th Street, New York, New York.
- (7) BTU: British Thermal Unit
- (8) Construction: Site preparation for, fabrication, erection, or installation of an air contaminant source.
- (9) Department: The Department of Natural Resources, State of Wisconsin.
- (10) Dose: The total exposure to a pollutant over a specified time period. (Dose = $\int_{T_1}^{T_2} C \, dT$ where T_1 is the start and T_2 the end of the time period and C the concentration).
- (11) Emergency or reserve equipment: That equipment used when normal equipment fails, or used only to meet high peak loads.
- (12) Emission: The act of releasing or discharging air pollutants into the ambient air.
- (13) Equivalent air-dried kraft pulp: Pulp production which produces a loading of black liquor solids to the recovery furnace equivalent to that loading produced with kraft pulp.
- (14) Equivalent opacity: An opacity of 20 percent per Ringelmann number.
- (15) Fugitive dust: Solid airborne particles emitted from any source other than a flue or stack.
- (16) Implementation plan: A plan adopted to implement, maintain, and enforce air standards within an air region, or portion thereof.
- (17) Kraft process: Any pulping process which uses an alkaline sulfide solution containing sodium hydroxide and sodium sulfide for a cooking liquor.
- (18) Modification: Any change in method of operation which increases the amount of any pollutant emitted from a source, except a change in production rate, or operating hours of existing equipment, or a change of fuel type provided the total amount of pollutants emitted is not increased.
- (19) New source: Any affected facility, the construction or modification of which is commenced after the effective date of these rules.
- (20) Non-condensibles: Gases and vapors from processes that are not condensed with the equipment used in those processes.
- (21) Opacity: The state of a substance which renders it partially or wholly impervious to rays of light.
- (22) Open burning: Oxidation from which the products of combustion 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 concentrations can be expected to remain at the above levels for twelve (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 10⁻³.

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.

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

6. The NO_2 dose is equal to or greater than 2.4 ppm-hr. ($4,510 \mu\text{g-hr/m}^3$) 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 twelve (12) or more hours or increase unless control actions are taken.

1. The SO_2 dose is equal to or greater than 5.6 ppm-hr. ($15,000 \mu\text{g-hr/m}^3$) for any consecutive 8-hour period in the preceding 16 hours,

2. The particulates dose is equal to or greater than 56 COHs-hr. ($7,000 \mu\text{g-hr/m}^3$) for any consecutive 8-hour period in the preceding 16 hours,

3. SO_2 and particulate combined--product of SO_2 , ppm, 24-hour average and COHs, 24-hour average equal to 0.8 or product of $\text{SO}_2 \mu\text{g/m}^3$, 24-hour average and particulate $\mu\text{g/m}^3$, 24-hour average equal to 261×10^3 .

4. The CO dose is equal to or greater than 240 ppm-hr. (275 mg-hr/m^3) for any consecutive 8-hour period in the preceding 16 hours.

5. The oxidant (O_3) dose is equal to or greater than 1.2 ppm-hr. ($2,000 \mu\text{g-hr/m}^3$) for any consecutive 4-hour period in the preceding 8 hours.

6. The NO_2 dose is equal to or greater than 4.8 ppm-hr. ($9,040 \mu\text{g-hr/m}^3$) for any consecutive 4-hour period in the preceding 8 hours.

(6) "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 condition can be expected to continue for twelve (12) or more hours.

1. The SO_2 dose is equal to or greater than 8.0 ppm-hr ($21,500 \mu\text{g-hr/m}^3$) for any consecutive 8-hour period in the preceding 16 hours.

2. The particulates dose is equal to or greater than 72 COHs-hr. ($9,000 \mu\text{g-hr/m}^3$) for any 8-hour period in the preceding 16 hours.

3. SO_2 and particulate combined-product of SO_2 ppm, 24-hour average and COHs, 24-hour average equal to 2.0 or product of $\text{SO}_2 \mu\text{g/m}^3$, 24-hour average and particulate $\mu\text{g/m}^3$, 24-hour average equal to 490×10^3 .

4. The CO dose is equal to or greater than 400 ppm-hr. (460 mg-hr/m^3) for any consecutive 8-hour period in the preceding 16 hours.

5. The oxidant (O_3) dose is equal to or greater than 1.4 ppm-hr. ($2,800 \mu\text{g-hr/m}^3$) for any consecutive 4-hour period in the preceding 8 hours.

6. The NO_2 dose is equal to or greater than 6.4 ppm-hr. ($12,050 \mu\text{g-hr/m}^3$) for any consecutive 4-hour period in the preceding 8 hours.

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.

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.

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 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, chapter NR 151. A single submittal to the Department of information for licensing under 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 NR 154.04 (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.

NR 154.05 Action on Applications

(1) If within 30 days after the receipt of plans, specifications, or other information as required in 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.

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 of the statutes shall, upon certification of the applicant, be so treated by the department.

(3) The department may require provision for sampling ports, a safe place to work for test crews, stack or performance tests by or under the direction of a qualified engineer or person with demonstrated ability in this field, or instrumentation to monitor and record emission data.

(a) The department shall be advised in advance of stack or performance tests, and a department representative may witness the test. Test results shall be furnished to the department within 30 days.

(b) Performance tests or stack tests shall follow the procedure and sampling train described in ASME Performance Test Code 27 or other method prescribed by the department.²

(c) The department shall charge a fee to cover the cost of stack or performance tests it conducts when those tests show the source to be in violation of these rules.

(4) 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.

(5) 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.

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

(7) A person shall promptly report to the department malfunction and breakdown of control equipment or use of emergency reserve equipment, and shall report in advance planned shutdown schedules and the measures taken to minimize the down time of the control equipment. The department shall investigate repetitive breakdowns or emergency conditions.

(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 NR 154.06 (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.

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 500 pounds of waste per hour or less.

(d) Fugitive dust, odors, and other pollutants from sources other than those specified in NR 154.04.

(e) Fugitive dust, odors, and other pollutants from sources specified in 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.

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.

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) Emissions in excess of the limits shown which are temporary and due to scheduled maintenance, breakdown of equipment or start-up or shut-down of operations shall not be considered a violation provided that the department is immediately notified of such unusual occurrence and it considers the requested period of time necessary for correction to be reasonable.

(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 and cannot have a normal use of more than 15 days per year. Upon start-up of this equipment notification must be given to the department which may or may not give approval for continued equipment use.

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, 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 both the Air Pollution Control Section and the Solid Waste Disposal Section of 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 regulating authority.
- (m) 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.

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 air-borne. 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.
- (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 Category Applications and Program Due Dates

Particulate categories shall be as follows:

(a) Category I

1. Applies to new or modified sources throughout the state which are constructed or modified after the effective date of these rules. Compliance with these limitations shall be shown to the department on start up of the new source or modification.

(b) Category II

1. Applies to all existing sources throughout the state. Compliance with these limitations shall be by July 1, 1973. A control plan or program, specifying equipment design and timetable for implementation shall be submitted to the department by July 1, 1971.

*Statute on
date
B.A.*

(c) Category III

1. In addition to the limitations of Category II existing sources in subregion 1 of the Lake Michigan Intrastate AQCR shall meet the emission limits of Category III. If the department finds that major changes in the control plan or program are needed to meet these limits compared to the limits of Category II, it may grant until January 1, 1973 for the submittal of a new control plan or program, and until May 1, 1975 for compliance with these limits. If a major change is not needed the new control plan or program and compliance with these limits shall be at earlier dates specified by the department.

(d) Category IV

1. In addition to the limitations of Category II existing sources in the Southeast Wisconsin Intrastate AQCR shall meet the emission limits of Category IV. If the department finds that major changes in the control plan or program are needed to meet these limits compared to the limits of Category II, it may grant until January 1, 1973 for the submittal of a new control plan or program, and until May 1, 1975 for compliance with these limits. If a major change is not needed the new control plan or program and compliance with these limits shall be at earlier dates specified by the department.

2. The department may grant a source variance from Category IV to Category III if it determines that such variance will not cause significant degradation of air quality and the source is so located that it will not affect the attainment of an air standard.

(e) All Categories

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

(4) Particulate Emission Limits for Processes

No person shall cause, suffer, allow, or permit the emission of particulate matter to the ambient air from a process source in excess of one of the following limitations: (dates for compliance are specified in NR 154.11 (3)).

(a) Category I

1. All sources in this category; emission in excess of:

a. Any other process not enumerated below: emission 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 NR 154.11 (4)(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	0.03
100	0.55
500	1.53
1,000	2.25
5,000	6.34
10,000	9.73
20,000	14.99
60,000	29.60
80,000	31.19
120,000	33.28
160,000	34.85
200,000	36.11
400,000	40.35
1,000,000	46.72

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.

(b) Categories II, III and IV

1. All sources in these categories; emissions in excess of:

- a. Cupolas: 0.45 pounds dust per 1,000 pounds of gas
- b. Electric arc, or induction furnaces: 0.1 pounds dust per 1,000 pounds of gas
- c. Open hearth furnaces: 0.2 pounds dust per 1,000 pounds of gas
- d. Basic oxygen furnaces: 0.1 pounds dust per 1,000 pounds of gas
- e. Sintering plants: 0.2 pounds dust per 1,000 pounds of gas
- f. Air melting furnaces: 0.3 pounds dust per 1,000 pounds of gas
- g. Heating, or preheating furnaces: 0.3 pounds dust per 1,000 pounds of gas
- h. Blast furnaces: 0.2 pounds dust per 1,000 pounds of gas
- i. Asphalt, concrete, or aggregate mix plants: 0.3 pounds dust per 1,000 pounds of gas
- j. Cement kilns: 0.2 pounds dust per 1,000 pounds of gas
- k. Lime kilns: 0.2 pounds dust per 1,000 pounds of gas
- l. Cement clinker coolers: 0.3 pounds dust per 1,000 pounds of gas
- m. Grinding, drying, mixing, conveying, sizing, or blending: 0.2 pounds dust per 1,000 pounds of gas
- n. Grain processing, or handling: 0.4 pounds dust per 1,000 pounds of gas
- o. Any other process not enumerated: 0.4 pounds dust per 1,000 pounds of gas.

(5) Particulate Emission Limits for Fuel Burning Installations

No person shall cause, suffer, allow, or permit particulate matter to be emitted 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: (dates for compliance are specified in NR 154.11 (3)).

(a) Category I

1. Installations of 250 million BTU per hour or less: the maximum emission of 0.15 pounds of particulate matter per million BTU input to any stack, except those installations in the Southeast Wisconsin Intrastate AQCR which shall follow NR 154.11 (5)(d) 1.
2. Installations of more than 250 million BTU per hour: the maximum emission of 0.10 pounds of particulate matter per million BTU input to any stack.

(b) Category II

1. All installations in this category: 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 to any stack.³

(c) Category III

1. All installations in this category: 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.

(d) Category IV

1. Installations of less than 250 million BTU per hour (heat input of an installation shall follow ASME Standard Number APS-1): these installations shall not burn coal. In addition the maximum emission of 0.15 pounds of particulate matter per million BTU input to any stack.
2. Installations of 250 million BTU per hour or more: the maximum emission of 0.15 pounds of particulate matter per million BTU input to any stack.

(6) Particulate Emission Limits for Incinerators

No person shall cause, suffer, allow, or permit particulate matter, concentrations corrected to 12 percent carbon dioxide, to be emitted to the ambient air from any incinerator in excess of one of the following limitations: (dates for compliance are specified in NR 154.11 (3)).

(a) Category I

1. Incinerators rated at 4,000 pounds of waste per hour or more: 0.15 pounds of particulate per 1,000 pounds of exhaust gas.
2. 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.
3. Incinerators rated at 500 pounds of waste per hour or less: 0.30 pounds of particulate per 1,000 pounds of exhaust gas.
4. 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 Z21.6.⁴

(b) Category II

1. Incinerators rated at over 500 pounds of waste per hour: 0.50 pounds of particulate per 1,000 pounds of exhaust gas.
2. Incinerators rated at 500 pounds of waste per hour or less: 0.60 pounds of particulate per 1,000 pounds of exhaust gas.
3. 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.

³American Society of Mechanical Engineers Standard Number APS-1, Second Edition, November 1968, copyright 1969.

⁴United States of America Standards Institute Approval Requirements for Domestic Gas-Fired Incinerators, number z21.6, approved December 28, 1966, copyright 1967

(c) Categories III and IV

1. Incinerators of 5 cubic feet capacity or more: 0.30 pounds of particulate per 1,000 pounds of exhaust gas.
2. 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.

(7) Visible Emissions

No person shall cause, suffer, allow, or permit emissions into the ambient air from any stationary source in excess of one of the following limitations; (dates for compliance are specified in NR 154.11 (3)).

(a) Categories I, III and IV

1. All sources in these categories: emissions of shade or density greater than number 1 of the Ringelmann chart or 20 percent opacity except when:
 - a. Combustion equipment is being cleaned or a new fire started, not to exceed number 4 of the Ringelmann chart or 80 percent opacity for 5 minutes in any one hour. Combustion equipment may not be cleaned or a fire started more than 3 times per day.
 - b. Equipment failure occurs and emissions are not reasonably preventable, provided notification is given to the regulating authority.
 - c. Uncombined water is the cause of failure to meet the requirements of this rule.
 - d. For stated periods of time as permitted by the regulating authority for such purpose as operating test, use of emergency or reserve equipment or other good cause, provided no significant air pollution results and no hazard or unsafe condition arises.
 - e. Stack 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 percent opacity above the average read during the stack test.

(b) Category II

1. All sources in this category: emission of shade or density equal to or greater than number 2 of the Ringelmann chart or 40 percent opacity. Exceptions listed in NR 154.11 (7)(a) shall apply.

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 NR 154.16 and the limitation on total reduced sulfur from pulping operations is specified in 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.

NR 154.13 Control of Organic Compound Emissions

(1) General Limitations

No person shall cause, suffer, allow, or permit organic compound emissions into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution.

(2) Organic Compound Limitations

No person shall cause, suffer, allow, or permit from any source in the state, organic compounds to be handled, transported, stored, or used without taking reasonable precautions to prevent hydrocarbon escape or emission. In the Southeast Wisconsin Intrastate AQCR or for any new or modified source throughout the state, such precautions shall include, but are not limited to:

- (a) Use of pressure tanks, floating roofs, vapor seals, gas-tight fittings, vapor recovery systems or similar controls on storage tanks of over 40,000 gallon capacity.
- (b) Use of vapor collection and disposal system, vapor collection adaptors and vapor-tight seal, or underfill method with the top hatches partially closed or means of creating a slight back pressure when loading tank trucks or trailers at facilities with over 40,000 gallons per day throughput.
- (c) Use of a submerged fill pipe of at least 95% or underfill method when loading tank trucks or trailers at facilities with 40,000 gallons or less per day throughput.
- (d) Use of a permanent submerged fill pipe on all tanks of over 1,000 gallon capacity, provided such a tank does not have controls as in NR 154.13 (2)(a).
- (e) Use of systems to prevent spillage or leakage when filling tanks, trucks or trailers.
- (f) Use of caution when filling automotive tanks to prevent spillage.
- (g) Use of vapor seals, floating roofs, flexible diaphragms, gas-tight fittings, vapor recovery systems or similar controls of at least 85 percent efficiency on volatile organic compound water separation systems that process over 200 gallons per day.
- (h) Use of direct flame incinerators, catalytic incinerators, or smokeless flares of at least 85 percent efficiency on waste gas streams or vapor vent system that emit more than 15 pounds per day or 3 pounds per hour of organic compounds.
- (i) Use of incinerators, adsorption, or similar methods of at least 85 percent efficiency for control of organic compounds from baking, heating, curing, or drying of materials that liberate such compounds under one of the above processes in excess of 15 pounds per day or 3 pounds per hour.
- (j) Use of disposal methods that prevent organic compounds from being emitted to the ambient air.
- (k). Use of incinerators, adsorption, scrubbers or other methods of at least 85 percent efficiency for control of organic compounds from dry cleaning operations that emit more than 15 pounds per day or 3 pounds per hour or enclosed paint spray operations that emit more than 30 pounds per day or 6 pounds per hour of organic compounds.

(3) Exceptions to Limitations

The provisions of NR 154.13 (2) shall not apply to the application or use of insecticides, pesticides, herbicides, saturated halogenated hydrocarbons, perchloroethylene, benzene, acetone, trichloroethylene or other solvents which have been shown to be virtually unreactive in the formation of oxidants. A solvent shall be considered reactive if it has an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or exceeds any of the following individual percentage composition limitations, referred to the total volume of solvent:

- (a) A combination of hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones having an olefinic or cyclo-olefinic type of unsaturation: 5 percent;
- (b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent;
- (c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, or toluene: 20 percent.

Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the above groups of organic compounds, it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percent of the total volume of solvents.

(4) Organic Compound Program Due Dates

Organic compound control shall follow the following time schedule:

- (a) Existing sources in the Southeast Air Region: the department may grant until January 1, 1975, for compliance with limitations in NR 154.13 (2). A plan or program, specifying equipment design and time table for implementation shall be submitted to the regulating authority by January 1, 1973. No extension of this time limit may be granted without formal application to the department which determines adequate justification.

(b) New sources in the state: compliance with NR 154.13 (2) shall be shown to the department on startup or first use of the source or installation.

NR 154.14 Control of Carbon Monoxide Emissions

(1) General Limitations

No person shall cause, suffer, allow, or permit emission of carbon monoxide to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution.

(2) Carbon Monoxide Limitations

No person shall cause, suffer, allow, or permit from any new source, carbon monoxide to be emitted to the ambient air unless such emissions are incinerated at 1300° F. for 0.3 seconds, or reduced by other means an equivalent amount. Such emissions shall include, but are not limited to the exhaust of cupolas, blast furnaces, basic oxygen furnaces; or waste streams from catalyst regeneration, petroleum fluid cokers, or other petroleum processes. Compliance with this limitation shall be shown to the department on start up of the source.

NR 154.15 Control of Nitrogen Compound Emissions

(1) General Limitations

No person shall cause, suffer, allow, or permit nitrogen oxides or nitrogen compounds to be emitted to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution.

(2) Nitrogen Oxides Limitations

No person shall cause, suffer, allow, or permit nitrogen oxides (expressed as NO₂) 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 gaseous fossil fuel: 0.20 pounds of NO₂ per million BTU input.
2. Firing of liquid fossil fuel: 0.30 pounds of NO₂ per million BTU input.
3. Firing of solid fossil fuel: 0.70 pounds of NO₂ per million BTU input.

(b) New or modified weak nitric acid plants (acid 30 to 70 percent in strength): 3.0 pounds of NO₂ per ton of acid produced.

NR 154.16 Use of Standby Fuel

(1) Use of standby fuel shall meet the following limitations:

(a) Visible Emissions

1. The limits in visible emission shall be the same as NR 154.11 (7)(b) of these rules.

(b) Particulate Emission Limits

1. No person while burning standby fuel shall cause, suffer, allow, or permit to be emitted to the ambient air particulate matter which substantially contribute to the exceeding of an air standard or create air pollution.

(c) Sulfur Emission Limits

1. No person shall cause, suffer, allow, or permit use of standby fuel with greater sulfur content than:

- a. Coal: 1.50% (by weight as fired)
- b. Residual Oil: 1.00%
- c. Distillate Oil: 0.70%

2. Variance from the above sulfur limits may be granted by the department until July 1, 1975, or until existing fuel supplies are used or contracts expired.

NR 154.17 Control of Motor Vehicles, Internal Combustion Engines, and Mobile Sources

(1) General Limitations

No person shall cause, suffer, allow, or permit emissions of particulate matter, sulfur oxides, hydrocarbons, carbon monoxide, nitrogen oxides, or odors from a motor vehicle, internal combustion engine, or mobile source which substantially contribute to the exceeding of an air standard or create air pollution.

(2) Control of Motor Vehicles

No person shall cause, suffer, allow, or permit the removal, dismantling, disconnection, disabling, or disrepair of any air pollution control device or system which has been installed on a motor vehicle or internal combustion engine. Such devices or systems include but are not limited to:

- (a) Positive crank case ventilation system.
- (b) Exhaust emission control devices.
- (c) Evaporative fuel loss control systems.
- (d) Any control device operating on principles such as thermal decomposition, catalytic oxidation or reduction, absorption, or adsorption.

(3) Requirements

The following requirement applies to motor vehicles in the Southeast Wisconsin Intrastate AQCR.

- (a) Gasoline Powered On the Road Vehicles: inspection, and repair if necessary, for a gasoline-powered vehicle to be eligible for registration. Inspection and repair shall include:
 - 1. Positive crankcase ventilation system.
 - 2. Hosing on pollution control system.
 - 3. Cleaning of air cleaner.
 - 4. Setting of idle speed (manufacturer recommendation).
 - 5. Setting of idle mixture (manufacturer recommendation on 1968 and later vehicles and best lean idle on all other).

(4) Visible Emission Limits for Motor Vehicles, Internal Combustion Engines, and Mobile Sources

No person shall cause, suffer, allow, or permit visible emissions in amounts greater than the following limitations, except when uncombined water is the cause for violation.

- (a) Gasoline-powered internal combustion engines of 25 HP or more, or gasoline-powered motor vehicles: no visible emissions for longer than five consecutive seconds.
- (b) Diesel-powered motor vehicles of model year 1970 or later: emissions of shade or density greater than Number 1 on the Ringelmann chart or 20 percent opacity for longer than ten consecutive seconds.
- (c) Diesel-powered motor vehicles of model year 1969 or earlier: emissions of shade or density greater than Number 2 on the Ringelmann chart or 40 percent opacity for longer than ten consecutive seconds.
- (d) Ships, locomotives, or semistationary diesel engines: emissions of shade or density greater than Number 2 on the Ringelmann chart or 40 percent opacity for longer than an aggregate time of five minutes in any thirty-minute period. At no time shall emissions exceed a shade or density greater than Number 4 on the Ringelmann chart or 80 percent opacity.

NR 154.18 Malodorous Emissions

(1) General Limitations

No person shall cause, suffer, allow, or permit emission into the ambient air any substance or combination of substances in such quantities that an objectionable odor is determined to result unless preventive measures satisfactory to the department are taken to abate, or control such emission.

- (a) An odor shall be deemed objectionable when either or both of the following tests are met:
 - 1. Upon the decision resulting from investigation by the regulating authority based upon the nature, intensity, frequency, and duration of the odor as well as the type of area involved and other pertinent factors.
 - 2. Or when sixty percent of a random sample of persons exposed to the odor in their place of residence or employment, other than employment at the odor source, claim it to be objectionable and the nature, intensity, frequency, and duration of the odor are considered. The sample of persons shall be selected by the regulating authority and shall consist of at least 9 persons.

(b) Abatement or control requirements may include but are not limited to:

1. Use of catalytic incinerators, after burners, scrubbers, adsorbers, absorbers, or other methods approved by the department.
2. The removal and disposal of odorous materials.
3. The use of methods in handling and storage of odorous materials that minimize emissions.
4. The following of prescribed standards in the maintenance of premises to reduce odorous emissions.
5. Use of best available control technology to reduce odorous emissions.

(2) Total Reduced Sulfur Limitations

No person shall cause, suffer, allow, or permit emission into the ambient air of total reduced sulfur (TRS) in excess of the following limitations: (all emission standards in this section are based on average daily emissions).

(a) The emission of TRS from all recovery furnace stacks shall not exceed one-half pound of sulfur (as sulfur) per equivalent ton of air-dried kraft pulp, or from each recovery furnace stack seventeen and one-half ppm, expressed as hydrogen sulfide on a dry gas basis, whichever is the more restrictive. New sources shall meet such other limit of TRS that proves to be reasonably attainable utilizing 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.

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.

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 NR 154.20 (2)(e).

(b) Emission control action programs as required under 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 POLLUTION WARNING, or AIR POLLUTION EMERGENCY emission control action programs as required by 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 NR 154.20 (1)(a) shall be submitted to the department upon request within sixty 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 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 of the Statutes 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 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 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:

TABLE 1. EMISSION REDUCTION OBJECTIVES FOR PARTICULATE MATTER

Source of Air Contamination	Air Pollution Alert	Air Pollution Warning	Air Pollution Emergency
1. Coal or oil-fired electric power generating facilities.	a. Substantial reduction by utilization of fuels having lowest available ash content.	a. Maximum reduction by utilization of fuels having lowest available ash content.	a. Maximum reduction by utilization of fuels having lowest available ash content.
	b. Maximum utilization of mid-day (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.	b. Maximum utilization of mid-day (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.	b. Maximum utilization of mid-day (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
	c. Substantial reduction by diverting electric power generation to facilities outside of Alert Area.	c. Maximum reduction by diverting electric power generation to facilities outside of Warning Area.	c. Maximum reduction by diverting electric power generation to facilities outside of Emergency Area.
2. Coal or oil-fired process steam generating facilities.	a. Substantial reduction by utilization of fuels having lowest available ash content.	a. Maximum reduction by utilization of fuels having lowest available ash content.	a. Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage.
	b. Maximum utilization of mid-day (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing	b. Maximum utilization of mid-day (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.	b. Maximum utilization of mid-day (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
	c. Reduction of steam load demands consistent with continuing plant operations.	c. Reduction of steam load demands consistent with continuing plant operations.	c. Taking the action called for in the emergency plan.
		d. Making ready for use a plan of action to be taken if an emergency develops.	
3. Manufacturing, processing, and mining industries.	a. Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing, or deferring production and allied operations.	a. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operations.	a. Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing, or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.

OR

Other persons required by the Department to prepare standby plans.

- | | | | |
|--------------------------------|---|---|--|
| | b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances. | b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances. | b. Elimination of air contaminants from trade waste disposal processes which emit particles, gases, vapors or malodorous substances. |
| | c. Reduction of heat load demands for processing consistent with continuing plant operations. | c. Reduction of heat load demands for processing consistent with continuing plant operations. | c. Maximum reduction of heat load demands for processing. |
| 4. Refuse disposal operations. | a. Maximum reduction by prevention of open burning. | a. Maximum reduction by prevention of open burning. | a. Maximum reduction by prevention of open burning. |
| | b. Substantial reduction by limiting burning of refuse in incinerators to the hours between 12:00 Noon and 4:00 p.m. | b. Complete elimination of the use of incinerators. | b. Complete elimination of the use of incinerators. |

TABLE 2. EMISSION REDUCTION OBJECTIVES FOR SULFUR OXIDES

Source of Air Contamination	Air Pollution Alert	Air Pollution Warning	Air Pollution Emergency
1. Coal or oil-fired electric power generating facilities.	a. Substantial reduction by utilization of fuels having lowest available sulfur content.	a. Maximum reduction by utilization of fuels having lowest available sulfur content.	a. Maximum reduction by utilization of fuels having lowest available sulfur content.
	b. Substantial reduction by diverting electric power generation to facilities outside of Alert Area.	b. Maximum reduction by diverting electric power generation to facilities outside of Warning Area.	b. Maximum reduction by diverting electric power generation to facilities outside of Emergency Area.
2. Coal or oil-fired process steam generating facilities.	a. Substantial reduction by utilization of fuels having lowest available sulfur content.	a. Maximum reduction by utilization of fuels having the lowest available sulfur content.	a. Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage.
	b. Reduction of steam load demands consistent with continuing plant operations.	b. Reduction of steam load demands consistent with continuing plant operations.	b. Taking the action called for in the emergency plan.
		c. Reduction of heat load demands for processing consistent with continuing plant operations.	
3. Manufacturing and processing industries.	a. Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing, or deferring production and allied operations.	a. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operations.	a. Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
	b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances.	b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances.	b. Elimination of air contaminants from trade waste disposal processes which emit particles, gases, vapors or malodorous substances.
	c. Reduction of heat load demands for processing consistent with continuing plant operations.	c. Reduction of heat load demands for processing consistent with continuing plant operations.	c. Maximum reduction of heat load demands for processing.
OR			
Other persons required by the Department to prepare standby plans.			

TABLE 3. EMISSION REDUCTION OBJECTIVES FOR NITROGEN OXIDES

Source of Air Contamination	Air Pollution Alert	Air Pollution Warning	Air Pollution Emergency
1. Steam-electric power generating facilities.	a. Substantial reduction by utilization of fuel which results in the formation of less air contaminant.	a. Maximum reduction by utilization of fuel which results in the formation of less air contaminant.	a. Maximum reduction by diverting electric power generation to facilities outside of Emergency Area.
	b. Substantial reduction by diverting electric power generation to facilities outside of Alert Area.	b. Maximum reduction by diverting electric power generation facilities outside of Warning Area.	
2. Process steam generating facilities.	a. Substantial reduction by utilization of fuel which results in the formation of less air contaminant.	a. Maximum reduction by utilization of fuel which results in the formation of less air contaminant.	a. Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage.
	b. Reduction of steam load demands consistent with continuing plant operations.	b. Reduction of steam load demands consistent with continuing plant operations.	
		c. Making ready for use a plan of action to be taken if an emergency develops.	
3. Manufacturing and processing industries.	a. Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing, or deferring production and allied operations.	a. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operations.	a. Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing, or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
	b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances.	b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances.	b. Elimination of air contaminants from trade waste disposal processes which emit particles, gases, vapors, or malodorous substances.
	c. Reduction of heat load demands for processing consistent with continuing plant operations.	c. Reduction of heat load demands for processing consistent with continuing plant operations.	c. Maximum reduction of heat load demands for processing.
OR Other persons required by the Department to prepare standby plans.			

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| 4. Stationary internal combustion engines. | a. Reduction of power demands for pumping consistent with continuing operations. | a. Reduction of power demands for pumping consistent with continuing operations. | a. Maximum reduction by reducing power demands to absolute necessities consistent with personnel safety and preventing equipment damage. |
| | | b. Maximum reduction by utilization of fuels or power source which results in the formation of less air contaminants. | b. Maximum reduction by utilization of fuels or power source which results in the formation of less air contaminants. |
| 5. Refuse disposal operations. | a. Maximum reduction by prevention of open burning. | a. Maximum reduction by prevention of open burning. | a. Maximum reduction by prevention of open burning. |
| | b. Substantial reduction by limiting burning of refuse in incinerators to the hours between 12:00 Noon and 4:00 p.m. | b. Complete elimination of the use of incinerators. | b. Complete elimination of the use of incinerators. |

TABLE 4. EMISSION REDUCTION OBJECTIVES FOR HYDROCARBONS

Source of Air Contamination	Air Pollution Alert	Air Pollution Warning	Air Pollution Emergency
1. Petroleum products storage and distribution.	a. Substantial reduction of air contaminants by curtailing, postponing, or deferring transfer operations.	a. Maximum reduction of air contaminants by assuming reasonable economic hardship by postponing transfer operations.	a. Elimination of air contaminants by curtailing, postponing, or deferring transfer operations to the extent possible without causing damage to equipment.
2. Surface coating and preparation.	a. Substantial reduction of air contaminants by curtailing, postponing, or deferring transfer operations.	a. Maximum reduction of air contaminants by assuming reasonable economic hardship by postponing transfer operations.	a. Elimination of air contaminants by curtailing, postponing, or deferring transfer operations to the extent possible without causing damage to equipment.
3. Manufacturing and processing industries. OR Other persons required by the Department to prepare standby plans.	a. Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing, or deferring production and allied operations.	a. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operations.	a. Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing, or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.

TABLE 5. EMISSION REDUCTION OBJECTIVES FOR CARBON MONOXIDE

Source of Air Contamination	Air Pollution Alert	Air Pollution Warning	Air Pollution Emergency
1. Manufacturing industries OR Other persons required by the Department to prepare standby plans.	a. Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing, or deferring production and allied operations.	a. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operations.	a. Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
2. Refuse disposal operations.	a. Maximum reduction by prevention of open burning.	a. Maximum reduction by prevention of open burning.	a. Maximum reduction by prevention of open burning.

NR 154.21 Limitations on County, Regional, or Local Regulations

Nothing in these rules shall be construed to limit the provisions of any county, regional, or local ordinance, regulation, or resolution which is more stringent or restrictive.

NR 154.22 Severability

Should any section, paragraph, phrase, sentence, or clause of this chapter be declared invalid or unconstitutional, the remainder of this chapter shall not be affected thereby.

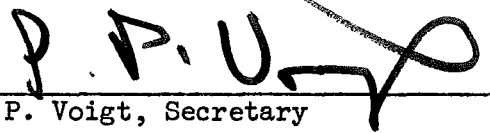
The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on January 14, 1972.

The rules contained herein shall take effect upon publication.

Dated at Madison, Wisconsin, this 21st day of February, A.D., 1972.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
By

(Department Seal)



L. P. Voigt, Secretary