

Chapter NR 154

AIR POLLUTION CONTROL

| | | | |
|-----------|---------------------------------------|-----------|--|
| NR 154.01 | Definitions | NR 154.14 | Control of carbon monoxide emissions |
| NR 154.02 | Applicability | NR 154.15 | Control of nitrogen compound emissions |
| NR 154.03 | Registration of existing sources | NR 154.16 | Use of standby fuel |
| NR 154.04 | Notice of intent | NR 154.17 | Control of motor vehicles, internal combustion engines, and mobile sources |
| NR 154.05 | Action on applications | NR 154.18 | Malodorous emissions |
| NR 154.06 | Operation and inspection of sources | NR 154.19 | Control of hazardous pollutants |
| NR 154.07 | County and regional programs | NR 154.20 | Emergency episode levels and emergency emissions control action programs |
| NR 154.08 | Enforcement and penalties | NR 154.21 | Limitations on county, regional, or local regulations |
| NR 154.09 | Emissions prohibited | NR 154.22 | Severability |
| NR 154.10 | Limitations on open burning | | |
| NR 154.11 | Control of particulate emissions | | |
| NR 154.12 | Control of sulfur emissions | | |
| NR 154.13 | Control of organic compound emissions | | |

History: Chapter NR 154 as it existed on March 31, 1972 was repealed and a new chapter NR 154 was created, Register, March, 1972, No. 195, effective April 1, 1972.

FOREWORD

Chapter 144, Wis. Stats., directs the department of natural resources to organize a comprehensive program to enhance the quality, management, and protection of the state's air resources. 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, Wis. Stats., 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.

NR 154.01 Definitions. (1) Affected facility is any type or class of air contaminant source which is required to submit a notice of intent and plans and specifications to the department prior to construction.

(2) Air contaminant is dust, fumes, mist, liquid, smoke, other particulate matter, vapor, gas, odorous substances, or any combination thereof but not including uncombined water vapor.

(3) Air contaminant source is any facility, building, structure, equipment, vehicle, or action or combination therein which directly or indirectly results in the emission of any air contaminant.

(a) Stationary source is any facility, building, structure, installation, or action or combination therein which directly or indirectly results in the emission of any air contaminant at a fixed location.

1. Direct source is any stationary source which directly results in the emission of any air contaminant at a fixed location. (e.g., building

demolition, foundry, grain elevator, gravel or stone quarry, paper mill, power plant, etc.)

2. Indirect source is any stationary source which conveys motor vehicles or which attracts or may attract mobile source activity and thus indirectly causes the emission of any air contaminant. Such indirect sources include, but are not limited to:

- a. Highways and roads.
- b. Parking facilities.
- c. Retail, commercial and industrial facilities.
- d. Recreation, amusement, sports and entertainment facilities.
- e. Airports.
- f. Office and government buildings.
- g. Apartment and condominium buildings.
- h. Education facilities.

3. Portable source is any stationary source which directly results in the emission of any air contaminant while at a fixed location but is capable of being transported to a different location. (e.g., portable asphalt plant, portable package boiler, portable air curtain destructor, etc.)

(b) Semistationary source is any facility, installation, operation or equipment that has the capability of emitting any air contaminant while moving, but generally does not emit while moving. (e.g., diesel cranes, air compressors and electric generators such as those used at construction sites, etc.)

(c) Mobile source is any motor vehicle or equipment which is capable of emitting any air contaminant while moving. (e.g., automobile, bulldozer, bus, locomotive, motorboat, motorcycle, snowmobile, steamship, truck, etc.)

(4) Aircraft operation is a landing or a takeoff.

(5) Air curtain destructor is an incineration device which utilizes a pit for burning combustible matter, into which air is blown at high velocity through a manifold and nozzle system along one side of the pit to create a turbulent, vortical flow of air combustible gases in the pit to bring about complete combustion.

(6) Air pollution is the presence in the atmosphere of one or more air contaminants in such quantities and of such duration as is or tends to be injurious to human health or welfare, animal or plant life, or property, or would unreasonably interfere with the enjoyment of life or property.

(7) Air pollution episode levels: Levels of air quality which are so degraded as to pose imminent danger to public health.

(a) "Alert": The alert level is that concentration of one or more air contaminants at which the first stage control actions begin.

(b) "Warning": The warning level indicates air quality is continuing to degrade and that additional control actions are necessary.

(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.

(8) AQCR: Air quality control region.

(9) Air quality maintenance area: An area designated pursuant to federal or Wisconsin laws as having the potential for exceeding any of the ambient air quality standards.

(10) 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.

(11) Ambient air: The portion of the atmosphere external to buildings and to which the general public has access.

(12) API: American Petroleum Institute, 1801 K Street, N.W., Washington, D.C., 20006.

(13) ASME: American Society of Mechanical Engineers, 345 E. 47th Street, New York, New York.

(14) ASTM: American Society for Testing and Materials, 1916 Race St., Philadelphia, Pa., 19103.

(15) Areawide air quality analysis: A macroscale analysis utilizing a modeling technique approved by the department.

(16) Asbestos mill: Any facility engaged in the conversion or any intermediate step in the conversion of asbestos ore into commercial asbestos. Outside storage of asbestos materials is not considered a part of such a facility.

(17) Asbestos tailings: Any solid waste product of asbestos mining or milling operations which contain asbestos.

(18) Associated parking area: A parking facility or facilities owned and/or operated in conjunction with an indirect source.

(19) Average daily traffic: The total traffic volume during a given time period in whole days greater than one day and less than one year divided by the number of days in that time period. The average daily traffic is commonly abbreviated as ADT.

(20) BTU: British thermal unit.

(21) Commence construction: To engage in a program of on-site construction, including site clearance, grading, dredging or landfilling specifically designed for a stationary source in preparation for the fabrication, erection or installation of the building components of the stationary source. (Formerly NR 154.01(8)).

(22) Commence modification: To engage in a program of on-site modification which may include site clearance, grading, dredging or landfilling in preparation for a specific modification of a stationary source.

(23) Commercial asbestos: Any variety of asbestos which is produced by extracting asbestos from asbestos ore.

(24) Crude petroleum: A naturally occurring mixture which consists of hydrocarbons and/or sulfur, nitrogen and/or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.

(25) Department: The department of natural resources, state of Wisconsin.

(26) Dose: The total exposure to a pollutant over a specified time period.

$$\text{Dose} = \int_{T_1}^{T_2} C dT$$

where T_1 is the starting time, T_2 the end of the time period and C is the pollutant concentration which varies with time, $C = f(T)$.

(27) Emergency or reserve equipment: That equipment used when normal equipment fails, or used only to meet high peak loads.

(28) Emission: A release of air contaminants into the atmosphere.

(29) 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.

(30) Equivalent opacity: An opacity of 20 percent per Ringlemann number.

(31) Floating roof: A storage vessel cover consisting of a double deck, a pontoon single deck, an internal floating cover or covered floating roof, which rests upon and is supported by the petroleum liquid being contained, and is equipped with a closure seal or seals to seal the space between the roof edge and tank wall.

(32) Fuel gas: Any gas which is generated by a petroleum refinery process unit and which is combusted, including any gaseous mixture of natural gas and fuel gas which is combusted.

(33) Fugitive dust: Solid airborne particles emitted from any source other than a flue or stack.

(34) Highway project: All or a portion of a proposed new or modified section of highway. Where an environmental statement is to be prepared, the highway project may be taken to cover the same length of highway.

(35) Hydrocarbon: Any organic compound containing carbon and hydrogen.

(36) Implementation plan: A plan adopted to implement, maintain, and enforce air standards within an air region, or portion thereof.

(37) Kraft process: Any pulping process which uses an alkaline sulfide solution containing sodium hydroxide and sodium sulfide for a cooking liquor.

(38) Modification: Any change in physical size or method of operation of a stationary source which increases the amount of any air contaminant emitted except that:

(a) Routine maintenance and repair shall not be considered physical changes.

(b) The following shall not be considered changes in method of operation unless an ambient air quality standard is violated:

1. An increase in production rate if such increase does not exceed the operating design capacity of the stationary source.

2. An increase in the hours of operation.

3. Use of an alternate fuel or raw material.

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

(39) New direct or portable source: A direct or portable source, the construction or modification of which is commenced after April 1, 1972, or the effective date of promulgation of an emission limit which applies.

(40) New indirect source: An indirect source, the construction or modification of which is commenced after July 1, 1975.

(41) Noncondensibles: Gases and vapors from processes that are not condensed with the equipment used in those processes.

(42) Opacity: The state of a substance which renders it partially or wholly impervious to rays of light.

(43) Open burning: Oxidation from which the products of combustion are emitted directly into the ambient air without passing through a stack or chimney.

(44) Organic compound: A compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate and methane.

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

(46) Particulate or particulate matter:

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

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

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

(48) Peak hour volume: The highest one-hour traffic volume in a calendar year.

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

(50) 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.

(51) Petroleum: The crude oil removed from the earth and the oils derived from tar sands, shale and coal.

(52) Petroleum liquid: Crude petroleum, condensate and any finished or intermediate products manufactured in a petroleum refinery except for Number 2 through Number 6 fuel oils as specified in ASTM-D-396-73, gas turbine fuel oils Numbers 2-GT through 4-GT as specified in ASTM-D-2880-71, or diesel fuel oils Numbers 2-D and 4-D as specified in ASTM-D975-73.

(53) Petroleum refinery: Any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.

(54) Process gas: Any gas generated by a petroleum refinery process unit except fuel gas and process upset gas as defined in this section.

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

(56) Process upset gas: Any gas generated by a petroleum refinery process unit as a result of start-up, shut-down, upset or malfunction.

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

(58) Refinery process unit: Any segment of petroleum refinery in which a specific processing operation is conducted.

(59) Reid vapor pressure: The absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases as determined by ASTM-D-323-72.

(60) 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.

(61) Secretary: The secretary of the department of natural resources, state of Wisconsin.

¹American Society for Testing and Materials, Part 17, 1973.

Note: Copies of applicable standards from Part 17; Petroleum Products - Fuels, Solvents, Burner Fuel Oils, Lubricating Oils, Cutting Oils, Lubricating Greases, Hydraulic Fluids; are available for inspection at the offices of the Department of Natural Resources, Pyare Square Building, Secretary of State and Revisor of Statutes, State Capitol, Madison, Wisconsin, and may be procured for personal use from ASTM, 1916 Race Street, Philadelphia, Pa., 19103.

²Ringelmann Chart published December, 1950, by the U.S. Bureau of Mines.

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, State Capitol, Madison, Wisconsin, and may be procured for personal use from the United States Department of Interior, Washington, D.C.

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

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

(64) Standard conditions: A temperature of 20° Celsius (centigrade) (68°F) and a pressure of 760 millimeters of mercury (29.92 inches of mercury).

(65) Standard Metropolitan Statistical Area (SMSA): Such area as designated by the U.S. bureau of the budget in the following publication: "Standard Metropolitan Statistical Areas,"³ issued in 1967, with subsequent amendments. The following Wisconsin counties are included in SMSA's:

(a) Appleton-Oshkosh, Wisconsin SMSA:

1. Calumet county
2. Outagamie county
3. Winnebago county

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

(c) Green Bay, Wisconsin SMSA: Brown county

(d) Kenosha, Wisconsin SMSA: Kenosha county

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

(f) Madison, Wisconsin SMSA: Dane county

(g) Milwaukee, Wisconsin SMSA:

1. Milwaukee county
2. Ozaukee county
3. Washington county
4. Waukesha county

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

(i) Racine, Wisconsin SMSA: Racine county

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

(67) Traffic volume: The number of vehicles that pass a particular point on the roadway during a specific time period. Volume can be expressed in terms of daily traffic or annual traffic as well as on an hourly basis.

³Specified in Federal Information Processing Standards, Publication 8-2, U.S. Department of Commerce, National Bureau of Standards, November, 1972, as amended by publication OMB-64 of the Executive Office of the President, Office of Management and Budget, April 27, 1973.

Note: Copies of Federal Information Processing Standards Publication 8-2 are available for inspection in the office of the Department of Natural Resources, Pyare Square Building and the Secretary of State and Revisor of Statutes, Capitol, Madison, Wisconsin, or may be obtained for personal use from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

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

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

(70) Vapor recovery system: A vapor gathering system capable of collecting all types of hydrocarbon vapors and gases discharged and a vapor disposal system capable of processing such hydrocarbon vapors and gases so as to prevent their emission into the atmosphere.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72, renum. (41) (a) 6 to be (41) (c); am. (41) (c) 3. and 4., Register, December, 1972, No. 204, eff. 1-1-73; r. and recr., Register, June, 1975, No. 234, eff. 7-1-75.

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

(2) The department may by order issued under section 144.35 (1) (b), Wis. Stats., authorize compliance with an emission limitation prescribed in this chapter after July 31, 1975, to expire on the date stated in the order, if it determines that NR 154.09 (1) Wis. Adm. Code applies and that all the conditions listed in such rule and hereunder are met. The department shall hold a public hearing in accordance with its rules prior to granting any such deferral which exceeds 90 days in total duration and shall not, without the express approval of a majority of the natural resources board, grant any deferral which exceeds one year in total duration. Prior to authorizing any such deferral, the department shall determine:

(a) The cause of the violation was a mechanical breakdown, act of God, or some other condition beyond the entity's control;

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

(c) Good faith efforts have been made to comply with this chapter and the cause of noncompliance could not have been forestalled by normal maintenance procedures (including advanced purchase of inventory and replacement parts);

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

(3) All available alternative operating procedures and interim control measures to minimize emissions shall be utilized by the air contaminant source during the period of any allowed exemption.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; am., cr. (2) and (3), Register, June, 1975, No. 234, eff. 7-1-75.

NR 154.03 Registration of existing sources. When requested by the department, a person shall furnish to the department, information to locate and classify air contaminant sources according to type, level, duration, characteristics and such other information as may be

Register, June, 1975, No. 234
Environmental Protection

necessary. The information shall be sufficient to evaluate the effect on air quality and compliance with these rules.

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

NR 154.04 Notice of intent. (1) No person shall cause, suffer, allow or permit the construction of a new stationary source, or the addition to, enlargement of, relocation, modification, or replacement of an existing stationary source listed hereunder, without submitting in writing a notice of intent to the department prior to construction or modification of said source. A notice of intent shall be submitted for any stationary source:

(a) Which can burn coal, coke or other solid fuel at a heat input rate greater than one million BTU per hour.

(b) Which can burn distillate oil (fuel oil), crude oil or residual oil at a heat input rate greater than 5 million BTU per hour.

(c) Which can burn gaseous fuel at a heat input rate greater than 30 million BTU per hour.

(d) Which can incinerate solid wastes at a rate greater than 50 pounds per hour (dry basis) or which can incinerate liquid wastes at a rate greater than 50 pounds per hour. Incinerators over 1,000 pounds per hour capacity are to be licensed under the solid waste management rules, Wisconsin Administrative Code, chapter NR 151. A single submittal of a notice of intent to the department will be sufficient notification.

(e) Which produces carbon black, charcoal, detergent or soap, explosives, hydrofluoric acid, nitric acid, paint, varnish, phosphoric acid, plastics, printing ink, sodium carbonate, sulfuric acid, sulfur dioxide, 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, asphalt concrete, brick or clay products, calcium carbide, cement, ceramics, cleaned coal, concrete mix, desulfurized oil, fiberglass, frit glass, gypsum, lime mineral wool, paperboard, perlite, paper pulp, phosphate rock, gravel, sand, stone, refined petroleum or petrochemical products, or wood products.

(f) Which emits asbestos, antimony, barium, beryllium, bromine, cadmium, chlorine, chromic acid, chromates, chromium, cobalt fume or dust, copper fume or dust, cyanides, fluorine, hydrogen chloride, hydrogen fluoride, iron (water soluble salts), lead, manganese, mercury, molybdenum, nickel carbonyl, nickel, nitric acid (including anhydrides), phosphoric acid including anhydrides, phosphorus (yellow), platinum (water soluble salts), selenium, sulfuric acid, thallium (water soluble compounds), tin, uranium, vanadium, pesticides, their mixtures, or their compounds. This section shall not apply to laboratories or water chlorination facilities.

(g) Which emits or may emit organic compounds at more than 15 pounds per day or more than 3 pounds per hour.

(h) Which can store more than 1,000 gallons of a photochemically reactive compound.

(i) Which can store more than 40,000 gallons of any organic compound.

(j) Which is an indirect source in a Standard Metropolitan Statistical Area (SMSA) and which meets one of the following criteria:

1. Any new parking facility, or other new indirect source with an associated parking area, which has a parking capacity of 1,000 cars or more.

2. Any modified parking facility or any modification of an associated parking area which increases parking capacity by 500 cars or more.

3. Any new highway project with an anticipated annual peak hour traffic volume of 1,200 or more vehicles per hour within 10 years of construction.

4. Any highway modification project which will increase the annual peak hour traffic volume by 1,200 or more vehicles per hour within 10 years after modification.

(k) Which is an indirect source outside all SMSA's and which meets one of the following criteria:

1. Any new parking facility or other new indirect source with an associated parking area which has a parking capacity of 1,500 cars or more.

2. Any modified parking facility or any modification of an associated parking area which increases parking capacity by 750 cars or more.

3. Any new highway project which will carry 4 or more lanes of traffic and which has an anticipated annual peak hour traffic volume of 1,800 or more vehicles per hour within 10 years of construction.

4. Any highway modification project which will create an additional 2 or more lanes of traffic and which will increase the annual peak hour traffic volume by 1,800 or more vehicles per hour within ten years after modification.

(l) Which is an airport, the construction or general modification program of which is expected to result in the following activity within 10 years of construction or modification:

1. New airport: 50,000 or more operations per year by regularly scheduled certified air carriers, or use by 1,000,000 or more passengers per year.

2. Modified airport: Increase of 50,000 or more operations per year by regularly scheduled certified air carriers over the existing volume of operations or increase of 1,000,000 or more passengers per year.

(m) Which exceeds one of the criteria in paragraph (l) of this section as a result of incremental growth. Where a stationary source is constructed or modified in increments which individually are not subject to review under this paragraph, all such increments occurring since the effective date of this rule or since the latest approval

hereunder, whichever date is most recent, shall be added together for determining the applicability of this paragraph.

(n) Which has uncontrolled emissions which exceed or are estimated to exceed 6 pounds per hour of any air contaminant or which causes objectionable odors. In those cases where this size limitation applies as well as another of the limitations above, the more restrictive limitation shall be used.

(2) A separate written notice of intent shall be submitted for each construction or modification project. If a statement of the environmental impact of a project is to be prepared, such statement may be submitted as the notice of intent if accompanied by a letter stating that the submittal is to serve as the notice of intent, provided that the statement contains the information requested in this section.

(a) For all stationary sources, said notice of intent shall include, but not be limited to:

1. The name, address and telephone number of the person submitting the notice of intent and the names(s) and address(es) of any other owner(s) and/or operator(s) of the facility.

2. A listing of all stationary sources associated with the facility.

3. A map showing the location and layout of the facility and adjacent streets, roads and property.

4. The expected dates when construction will commence, when emissions associated with the operation of the facility will begin, and when all aspects of the facility will be completed and open for business or fully operational.

5. The estimated cost of the project.

(b) For direct and portable sources, said notice of intent shall include, but not be limited to, in addition to the information required in subsection (2) (a) above:

1. Manufacturer of the equipment; model number and rated capacity.

2. Description of the process and a flow diagram.

3. Estimated composition and amounts of raw materials used.

4. Expected types, composition and amounts of fuel burned, including:

a. Heating values.

b. Sulfur content, percentage by weight.

c. Ash content, percentage by weight.

5. Operating schedule.

6. Information on any equipment to be used for measurement or control of emissions.

7. Stack height, temperature, exit diameter and exit velocity.

8. Emission rates at rated capacity of particulate matter, sulfur oxides, nitrogen oxides, carbon monoxide, hydrocarbons, TRS or any toxic and hazardous materials.

(c) For relocation of a portable source, said notice of intent shall include, in addition to the information required in subsection (2) (a) above, the submittal of a completed application form supplied by the department upon request.

(d) For indirect sources other than highway projects, said notice of intent shall include, in addition to the information required in subsection (2) (a) above:

1. A description of the proposed use of the site, including the normal hours of operation of the facility and the general types of activities to be operated therein.

2. A site plan showing the location of associated parking areas, points of motor vehicle ingress and egress to and from the site and its associated parking areas and the location and height of buildings on the site.

(e) For airports, said notice of intent shall include, in addition to the information required in subsection (2) (a) above:

1. An estimate of the maximum number of aircraft operations per day by type of aircraft and an estimate of total passenger loadings during the first and tenth years after the expected date of completion.

2. The information required under subsection (2) (d) above.

(f) For highway projects, said notice of intent shall include, in addition to the information required in subsection (2) (a) above:

1. An estimate of the annual peak hour traffic volume and annual average daily traffic volume expected during the first and tenth years after the expected date of completion.

2. An estimate of vehicle speeds for annual peak hour and annual average daily traffic volume conditions.

3. The maximum vehicle capacity of the highway project.

4. A description of the general features of the highway project and associated right-of-way, and location of receptors along the right-of-way.

(3) Exemption from the requirement to submit a notice of intent does not relieve any persons from compliance with the emission limits of this chapter, the air quality requirements of chapter NR 155, or the reporting requirements of chapter NR 101.

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

NR 154.05 Action on applications. (1) After receipt of a notice of intent the department shall determine if the proposed project or action shall come under more detailed plan review and respond to the applicant with either an approval to proceed or, as a condition precedent to construction, installation, modification, relocation, or replacement of the stationary source, require the submission of such plans, specifications, or other information as may be needed for an

Register, June, 1975, No. 234
Environmental Protection

analysis of the air quality impact of the project and/or for determining whether emission limits will be exceeded. When the department requires submittal of such plans and specifications, the proposed project becomes an affected facility.

(2) If within 30 days after the receipt of plans, specifications, or other information as required in subsection (1) of this section, the department determines the source will not be in accordance with the requirements of this section, 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 and other information submitted.

(a) When plans receive only conditional approval or when an order to prohibit construction is issued, the aggrieved person may request a hearing in accordance with the rules of the department.

(3) For a direct source, the department shall issue an order prohibiting construction if it determines that the affected facility will:

(a) Cause a violation of any control strategy of the state implementation plan.

(b) Cause or exacerbate a violation of any ambient air quality standard in any region or portion thereof.

(c) Degrade the air quality of the area sufficiently to prevent the construction of any other stationary source, for which plans are received by the department prior to the commencement of the plan review period for the affected facility, from being approvable under these rules.

(4) For an indirect source other than a highway project or an airport, the department shall issue an order prohibiting construction if it determines that the affected facility will:

(a) Cause a violation of any control strategy of the state implementation plan.

(b) Cause or exacerbate a violation of either ambient air quality standard for carbon monoxide in any region or portion thereof.

(c) Raise the carbon monoxide level in the area sufficiently to prevent the construction of any other stationary source, for which plans are received by the department prior to the commencement of the plan review period for the affected facility, from being approvable under these rules.

(5) For a highway project subject to this paragraph, the department shall issue an order prohibiting construction if it determines that the affected facility will:

(a) Cause a violation of any control strategy of the state implementation plan.

(b) Cause or exacerbate a violation of either ambient air quality standard for carbon monoxide in any region or portion thereof.

(c) Degrade the air quality along the highway corridor sufficiently to prevent construction of any other indirect source, for which plans are received by the department prior to the commencement of the plan review period for the affected facility, from being approvable under these rules.

(d) The determination pursuant to subsection (5) (b) and (c) of this section shall be made by evaluating the anticipated concentration of carbon monoxide at nearby receptor or exposure sites which will be affected by the mobile source activity expected on the highway for the ten-year period following the expected date of completion, using traffic flow characteristic guidelines published by the U.S. environmental protection agency, appropriate atmospheric diffusion models, and/or any other reliable analytic method.

(e) For any new highway project with an anticipated average daily traffic volume of 50,000 or more vehicles per day within 10 years of construction or any highway modification project which will increase the average daily traffic volume by 25,000 vehicles per day or more within 10 years after modification, the department may require the following in addition to the requirements of subsection (5) (d) of this section for consideration in determining the approvability of the affected facility. The expected concentration of carbon monoxide, photochemical oxidants and nitrogen dioxide shall be estimated for the 10-year period following completion of construction or modification using an areawide air quality analysis or other modeling technique approved by the department.

(6) For an airport subject to this paragraph, the department shall issue an order prohibiting construction if it determines that the affected facility will:

(a) Cause a violation of any control strategy of the state implementation plan.

(b) Cause or exacerbate a violation of either ambient air quality standard for carbon monoxide in any region or portion thereof.

(c) The determination pursuant to subsection (6) (b) of this section shall be made according to department guidelines. These guidelines may include the following:

1. All emissions from stationary and mobile sources at the airport, as well as emissions from the development of other new stationary sources expected to occur within 3 miles of the perimeter of the airport, will be added together in order to determine the aggregate impact on air quality for the 10-year period following the expected date of completion.

2. An areawide air quality analysis, or other modeling technique approved by the department will be used to determine the expected ambient concentration of carbon monoxide following construction or modification.

3. For highway projects and parking facilities specified under subsection (6) (c) of this section which are associated with airports, the applicable procedures specified in subsections (5) (d) and (e) of this section will be used.

(d) In addition to the requirements of subsection (6) (c) of this section, the department may require that an areawide air quality analysis or other modeling technique approved by the department be used to determine the expected ambient concentrations of photo-chemical oxidants and nitrogen dioxide following construction or modification for consideration in determining the approvability of the affected facility.

(7) The air quality impact of a proposed stationary source will be determined at such locations where people might reasonably be exposed for time periods consistent with the ambient air quality standards for the pollutants for which an analysis is carried out.

(8) Whenever a stationary source as proposed by an owner or operator's application would not be permitted to be constructed for failure to meet the tests set forth in subsections (3), (4), (5) or (6) of this section, the department may, instead of issuing an order prohibiting construction, grant a conditional approval which imposes reasonable conditions related to the air quality aspects of the proposed facility so that such facility, if constructed or modified in accordance with such conditions, could meet the tests set forth in subsections (3), (4), (5) or (6) of this section. For indirect sources, such conditions may include, but are not limited to:

(a) Binding commitments to roadway improvements or additional mass transit facilities to serve the facility secured by the owner or operator from governmental agencies having jurisdiction thereof.

(b) Binding commitments by the owner or operator to specific programs for mass transit incentives for the employes and patrons of the source.

(c) Binding commitments by the owner or operator to construct, modify or operate the facility in such a manner as may be necessary to achieve the traffic flow characteristics which have been determined not to cause violations of the national standards for carbon monoxide.

(9) Notwithstanding the provisions relating to modified stationary sources contained in subsection (1) of NR 154.04, the department may condition any approval by reducing the extent to which the facility may be further modified without resubmission for approval under this paragraph.

(10) Any owner or operator who fails to construct a stationary source in accordance with the application as approved by the department; any owner or operator who fails to construct and operate a stationary source in accordance with conditions imposed by the department under subsection (8) of this section; any owner or operator who modifies a stationary source in violation of conditions imposed by the department under subsection (9) of this section; or any owner or operator of a stationary source subject to this section who commences construction or modification thereof after the effective date of these rules, without applying for and receiving approval hereunder, shall be considered in violation of this chapter.

(11) Approval to construct or modify a stationary source other than an airport or a highway section shall become invalid if construction or modification is not commenced within 24 months after the date when written approval was issued by the department. The department may

extend such time period for up to 12 months on written request upon satisfactory showing that an extension is justified.

(12) Approval to construct or modify an airport shall become invalid if construction or modification is not commenced within 4 years after the date when written approval was issued by the department. The department may extend such time period for 2 years on written request.

(13) Approval to construct or modify for a highway project shall become invalid if construction or modification is not commenced within 6 years after the date when written approval was issued by the department. The department may extend such time period for up to 3 years on written request.

(14) Approval to construct or modify shall not relieve any owner or operator of the responsibility to comply with the emission limits of this chapter, the air quality standards of chapter NR 155 or the control strategies of all local, state and federal regulations which are part of the state implementation plan.

(15) The department will delegate review responsibilities for an affected facility which is to be constructed by another agency of the state to such agency if the procedures followed by the agency fulfill all the requirements of this section. Final approval or disapproval shall be the responsibility of the department.

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

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) The department may require: Provision for sampling ports, a safe work area for test crews, safe access to the sampling platform, utilities for sampling and testing equipment, stack or performance tests performed by or under the direction of a qualified engineer or person with demonstrated ability in this field, instrumentation to monitor and record emission data, stack or performance tests performed in compliance with emission test guidelines developed by the department and submitted to the tester prior to the conducting of the test, or transfer of the test data sheets or sample collecting media to the department's witness for evaluation.

(a) The department shall be notified 10 days in advance of stack or performance tests to afford the department the opportunity to have a representative present to witness the testing procedures. Said notice shall provide a test plan which includes:

1. A description of the sampling equipment.
2. A description of the processes, operations, and equipment venting to the stack.
3. A description of process or operation variables which affect the air contaminant source's emissions.
4. A cross-sectional sketch showing:
 - a. Stack configuration at the sampling location.

b. Sampling port locations.

c. Sampling point positions of each port.

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

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

(bm) American Society of Mechanical Engineers Performance Test Code 27, copyright 1957. Copies of PTC-27-1957 are available for inspection in the offices of Department of Natural Resources, Pyare Square Building, and Secretary of State and Revisor of Statutes, State Capitol, Madison, Wisconsin, and may be obtained for personal use from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.

(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.

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

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

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

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

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

correction, and measures taken to minimize emissions during the period.

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

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

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

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

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

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

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

Register, June, 1975, No. 234
Environmental Protection

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

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

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

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

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

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

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

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

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

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

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

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

(e) Burning of small amounts of dry combustible rubbish (not to include wet combustible rubbish, garbage, oily substances, asphalt, plastic or rubber products) except where prohibited by local ordinance.

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

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

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

Register, June, 1975, No. 234
Environmental Protection

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Register, June, 1975, No. 234
Environmental Protection

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

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

a. Any process not otherwise covered by paragraph (3) (a) of this section: emissions calculated by the use of the equation, $E = 3.59 P^{0.62}$ for process weight rates up to 60,000 pounds per hour; by use of the equation $E = 17.31 P^{0.42}$ for process weight rates of 60,000 pounds per hour or more; (E is the allowable emissions in pounds per hour and P is the process weight rate in tons per hour) or in concentrations greater than those listed in section NR 154.11 (3) (b), whichever is more restrictive. Some examples of these calculations are given in the following table.

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

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

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

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

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

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

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

ii. In those instances in which auxiliary liquid or solid fossil fuels are burned in the fluid catalytic cracking unit incinerator-waste heat boiler, particulate matter in excess of that permitted by paragraph (4) (a) i.e.i. of this section may be emitted to the atmosphere, except that the incremental rate of particulate emissions shall not exceed 0.10 pounds per million BTU (0.18 grams per million calories) of heat input attributable to such liquid or solid fuel.

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

d. Secondary brass and bronze ingot production plants (reverberatory furnaces of 2,205 pounds or greater production capacity): 0.022 grains per dry cubic foot at standard conditions (50 milligrams per dry cubic meter at standard conditions).

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

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

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

a. Cupolas: 0.45 pounds of particulate matter per 1,000 pounds of gas.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1. Installations specified hereunder; emissions in excess of:

a. Installations of 250 million BTU per hour or less: 0.15 pounds of particulate matter per million BTU input to any stack, except those installations in the Southeast Wisconsin Intrastate AQCR which shall meet the requirements of (4) (b) 3.a. of this section.

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

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

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

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

b. American Society of Mechanical Engineers Standard Number APS-1, Second Edition, November, 1968, copyright 1969. Copies of Standard Number APS-1 are available for inspection in the office of department of natural resources, Pyare Square Building and secretary of state and revisor of statutes, state Capitol, Madison, Wisconsin and may be obtained for personal use from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.

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

a. All installations: emissions determined by use of figure 2 of the ASME Standard Number APS-1 with the maximum emission

irrespective of stack height of 0.30 pounds of particulate matter per million BTU input to any stack.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

c. For direct or portable sources in operation on or before February 1, 1975, where performance test data taken concurrently with Ringelmann or opacity readings show the source to be in compliance with the emission limits but not the Ringelmann or opacity limits. In

this case, Ringelmann or opacity limits shall be set at 0.5 Ringelmann or 10 % opacity above the average read during the stack test.

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

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

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

c. Secondary lead smelters:

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

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

d. Secondary brass and bronze ingot production plants:

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

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

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

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

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

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; r. and recr. (3) to (6), r. (7), Register, June, 1975, No. 234, eff. 7-1-75.

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

Register, June, 1975, No. 234
Environmental Protection

(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.

(3) **PETROLEUM REFINERIES.** No person shall cause, suffer, allow or permit the release into the atmosphere or the burning of any fuel gas in an incinerator-waste heat boiler or process heater which contains greater than 0.10 grains of hydrogen sulfide (H₂S) per dry cubic foot at standard conditions (0.23 grams per dry cubic meter at standard conditions) unless the gases resulting from combustion are treated in a manner which prevents the release of sulfur dioxide to the atmosphere as effectively as controlling the concentration of H₂S in the fuel gas being burned.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; cr. (3), Register, June, 1975, No. 234, eff. 7-1-75.

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

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

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

3. Subsurface caverns or porous rock reservoirs.

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

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

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

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

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

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

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

b. The petroleum liquid has a true vapor pressure, as stored, greater than 9.1 pounds per square inch absolute (470 millimeters of mercury) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent.

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

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

(cm) American Petroleum Institute, Bulletin 2517 *Evaporation Loss from Floating Roof Tanks*, February, 1962. Copies of Bulletin 2517, *Evaporation Loss from Floating Roof Tanks* are available for inspection in the office of the department of natural resources, Pyare Square Building and secretary of state and revisor of statutes, State Capitol, Madison, Wisconsin, and may be obtained for personal use

from the American Petroleum Institute, 1801 K Street, N.W., Washington, D.C. 20006.

(d) Maintenance requirements. No person shall place, hold or store in a storage vessel any petroleum liquid which has a vapor pressure under storage conditions in excess of 1.5 pounds per square inch absolute, unless:

1. It is painted and maintained so as to prevent excessive temperature and vapor pressure increases.

2. The seals of any floating roof are maintained so as to minimize emissions, and

3. All gaging and sampling devices are gas-tight except when gaging or sampling are taking place.

(3) PHOTOCHEMICALLY REACTIVE ORGANIC SUBSTANCES. (a) An organic compound shall be considered reactive if it is included in any of the following 3 groups:

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

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

3. Group C: Ethylbenzene, toluene, or ketones having branched hydrocarbon structures.

(b) A solvent or mixture of organic compounds shall be considered reactive if any of the following conditions are met:

1. More than 20% of the total volume is composed of any combination of compounds listed in Groups A, B or C in NR 154.13 (3) (a).

2. More than 5% of the total volume is composed of any combination of the compounds listed in Group A in NR 154.13 (3) (a).

3. More than 8% of the total volume is composed of any combination listed in Group B in NR 154.13 (3) (a).

(4) CONTROL OF PHOTOCHEMICALLY REACTIVE ORGANIC SUBSTANCES. In the Southeast Wisconsin Intrastate AQCR or for any new or modified direct source throughout the state, control of reactive organic substance emissions shall include, but is not limited to, the precautions listed in this subsection. Compliance with the limitations in this subsection shall not preclude any source from conformance with any and all limitations in NR 154.13.

(a) When storing, handling or transporting photochemically reactive organic compounds, solvents or mixtures having a vapor pressure greater than 1.5 psia at 70°F, the following limitations shall apply:

1. On storage tanks having greater than 40,000-gallon capacity, floating roofs, vapor condensation systems, vapor holding tanks or similar controls shall be used.

2. On storage tanks having greater than 1,000-gallon capacity, a permanent submerger fill pipe must be used, provided such a tank does not have controls mentioned in NR 154.13 (4) (a) 1.

3. At facilities with over 40,000 gallons per day throughput, a vapor collection and disposal system, vapor collection adaptors and vapor-tight seal, or an underfill method with the top hatches partially closed or a means of creating a slight back pressure when loading tank trucks or trailers must be used.

4. At facilities with 40,000 gallons or less per day throughput, the underfill method or a submerged fill pipe extending to within 6 inches of the tank bottom shall be employed when loading tank trucks or trailers.

(b) For any process line emitting photochemically reactive organic compounds, solvents or mixtures, the following limitations shall apply:

1. Any process line, except enclosed paint spray booths and volatile organic compound water separation systems, which emits more than 15 pounds per day or 3 pounds per hour of a reactive organic compound, solvent or mixture must control these emissions by at least 85%.

2. Any enclosed paint spraying operation which emits more than 30 pounds per day or 6 pounds per hour of a reactive organic compound, solvent or mixture must control these emissions by at least 85%.

3. Any volatile reactive organic compound—water separation system that processes over 200 gallons per day must control the emission of volatile organic substances by at least 85%.

(c) No person shall cause, suffer, allow or permit organic compounds to be handled or used without taking reasonable precautions to prevent the escape or emission of photochemically reactive organic compounds, solvents or mixtures. Such precautions shall include, but are not limited to:

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

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

3. Use of disposal methods which prevent organic compounds from being evaporated in or emitted to the ambient air.

(d) Exceptions to limitations. The provisions of sections NR 154.13 (4) (a), (4) (b) and (4) (c) shall not apply to the use or application of insecticides, pesticides, herbicides, saturated halogenated hydrocarbons, perchlorethylene, benzene, acetone, trichloroethylene, or other organic compounds which have been shown to be virtually unreactive in the formation of photochemical oxidants.

(5) ORGANIC COMPOUND PROGRAM DUE DATES. Organic compound control shall follow the following time schedule:

(a) Existing direct sources in the Southeast Air Region: The department may grant until July 31, 1975 for compliance with limitations in section NR 154.13 (4).

(b) New direct sources in the state: Compliance with sections NR 154.13(2) and (4) shall be shown to the department on initial start-up or first use of the source or installation.

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

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 significant emissions of carbon monoxide from any new direct source not listed below to be emitted to the ambient air unless such emissions are incinerated at 1,300°F for 0.3 seconds, or reduced by some other means an equivalent amount. Such emissions shall include, but are not limited to, the exhaust from cupolas, blast furnaces, basic oxygen furnaces; or waste streams from petroleum fluid cokers or other petroleum processes. Compliance with these limitations shall be shown to the department on initial startup of the source.

(a) Petroleum refineries (fluid catalytic cracking unit catalyst regenerators): 0.050% carbon monoxide by volume, dry basis.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; am. (2) and cr. (2) (a), Register, June, 1975, No. 234, eff. 7-1-75.

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 NO_x) 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 NO_x per million BTU input.

2. Firing of liquid fossil fuel; 0.30 pounds of NO_x per million BTU input.

3. Firing of solid fossil fuel; 0.70 pounds of NO_x per million BTU input.

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

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

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 section NR 154.11 (7) (c) of these rules.

Register, June, 1975, No. 234
Environmental Protection

(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. In the Southeast Wisconsin Intrastate Air Quality Control Region, 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.

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

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).

Register, June, 1975, No. 234
Environmental Protection

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 5 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% opacity for longer than 10 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 of 40% opacity for longer than 10 consecutive seconds.

(d) Ships, locomotives, or semistationary diesel engines: emissions of shade or density greater than number 2 on the Ringelmann chart or 40% opacity for longer than an aggregate time of 5 minutes in any 30-minute period. At no time shall emissions exceed a shade or density greater than number 4 on the Ringelmann chart or 80% opacity.

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

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 decision resulting from investigation by the department, 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 60% 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.

(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 17 and one-half ppm, expressed as hydrogen sulfide on a dry gas basis, whichever is the more restrictive. New direct 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 direct sources shall be in compliance with this requirement by 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 existing direct 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; am. (1) (a) and (2), Register, June, 1975, No. 234, eff. 7-1-75.

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.

(4) **CONTROL OF ASBESTOS EMISSIONS.** (a) Asbestos mills: There shall be no visible emissions to the outside air from any asbestos mill except as provided in paragraph (f) of this section.

Register, June, 1975, No. 234
Environmental Protection

(b) Roadways: The surfacing of roadways with asbestos tailings is prohibited except for temporary roadways on an area of asbestos ore deposits. The deposition of asbestos tailings on roadways covered with snow or ice is considered "surfacing."

(c) Manufacturing: There shall be no visible emissions to the outside air, except as provided in paragraph (f) of this section, from any building or structure in which asbestos manufacturing operations are conducted or directly from any such operations if they are conducted outside of buildings or structures. An asbestos manufacturing operation means the combining of commercial asbestos or, in the case of woven friction products, the combining of textiles containing commercial asbestos, with any other material(s), including commercial asbestos, and the processing of this combination into a product. Types of manufacturing operations include, but are not limited to:

1. The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap or other textile materials.
2. The manufacture of cement products.
3. The manufacture of fireproofing and insulating materials.
4. The manufacture of friction products.
5. The manufacture of paper, millboard and felt.
6. The manufacture of floor tile.
7. The manufacture of paints, coatings, caulks, adhesives and sealants.
8. The manufacture of plastics and rubber materials.
9. The manufacture of chlorine.

(d) Demolition: Any owner or operator of a demolition operation who intends to demolish any institutional, commercial or industrial building (including apartment buildings having more than 4 dwelling units), structure, facility, installation, or portion thereof, which contains any boiler, pipe or load-supporting structural member that is insulated or fireproofed with friable asbestos material shall comply with the requirements set forth in this paragraph.

1. Notice of intention to demolish shall be provided to the department at least 20 days prior to commencement of such demolition or any time prior to commencement of demolition subject to paragraph (d)3. of this section. Such notice shall include the following information:

- a. Name of owner or operator.
- b. Address of owner or operator.
- c. Description of the building, structure, facility or installation to be demolished.
- d. Address or location of the building, structure, facility or installation.
- e. Scheduled starting and completion dates of demolition.

f. Method of demolition to be employed.

g. Procedures to be employed to meet the requirements of this paragraph.

2. The following procedures shall be used to prevent emissions of particulate asbestos material to outside air:

a. Friable asbestos materials used to insulate or fireproof any boiler, pipe or load-supporting structural member shall be wetted and removed from any building, structure, facility or installation subject to this paragraph before wrecking of load-supporting structural members is commenced. Boilers, pipe or load-supporting structural members that are insulated or fireproofed with friable asbestos materials may be removed as units or in sections without stripping or wetting, except that where the boiler, pipe or load-supporting structural member is cut or disjointed, the exposed friable asbestos materials shall be wetted. The friable asbestos debris shall be wetted adequately to insure that such debris remains wet during all stages of demolition and related handling operations.

b. No pipe or load-supporting structural member that is covered with friable asbestos insulating or fireproofing material shall be dropped or thrown to the ground from any building, structure, facility or installation subject to this paragraph, but shall be carefully lowered or carried to ground level.

c. No friable asbestos debris shall be dropped or thrown to the ground from any building, structure, facility or installation subject to this paragraph or from any floor to any floor below. For buildings, structures, facilities or installations 50 feet or greater in height, friable asbestos debris shall be transported to the ground via dust-tight chutes or containers.

3. Any owner or operator of a demolition operation who intends to demolish a building, structure, facility or installation to which the provisions of this paragraph would be applicable but which has been declared by proper state or local authority to be structurally unsound and which is in danger of imminent collapse is exempt from the requirements of this paragraph other than the reporting requirements specified by subsection (4) (d) 1. of this section and the wetting of friable asbestos debris as specified by subsection (4) (d) 2.a of this section.

(e) Spraying: There shall be no visible emissions to the outside air from the spray-on application of materials containing more than one percent asbestos, on a dry weight basis, used to insulate or fireproof equipment and machinery except as provided in paragraph (f) of this section. Spray-on materials used to insulate or fireproof buildings, structures, pipes and conduits shall contain less than one percent asbestos on a dry weight basis.

1. Any owner or operator who intends to spray asbestos materials to insulate or fireproof buildings, structures, pipes, conduits, equipment and machinery shall report such intention to the department at least 20 days prior to the commencement of the spraying operation. Such report shall include the following information:

a. Name of owner or operator.

b. Address of owner or operator.

c. Location of spraying operation.

d. Procedures to be followed to meet the requirements of this paragraph.

(f) Rather than meet the no-visible-emission requirements of paragraphs (a), (c), and (e) of this section, an owner or operator may elect to use the methods specified below to clean emissions containing particulate asbestos material before such emissions escape to, or are vented to, the outside air.

1. Fabric filter collection devices must be used, except as noted in subsections (4) (f) 2. and 3. of this section. Such devices must be operated at a pressure drop of no more than 4 inches water gage as measured across the filter fabric. The airflow permeability, as determined by ASTM method D737-69 must not exceed 30 ft³/min/ft² for woven fabrics or 35 ft³/min/ft² for felted fabrics, except that 40 ft³/min/ft² for woven and 45 ft³/min/ft² for felted fabrics is allowed for filtering air from asbestos ore dryers. Each square yard of felted fabric must weigh at least 14 ounces and be at least one-sixteenth inch thick throughout. Synthetic fabrics must not contain fill yarn other than that which is spun.

1m. American Society for Testing and Materials, Part 24, 1971. Copies of Method D737-69, from Part 24 — Textile Materials; are available for inspection at the offices of the department of natural resources, Pyare Square Building, and secretary of state and revisor of statutes, State Capitol, Madison, Wisconsin, and may be procured for personal use from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa., 19103.

2. If the use of fabric filters creates a fire or explosion hazard, the department may authorize the use of wet collectors designed to operate with a unit contacting energy of at least 40 inches water gage pressure.

3. The department may authorize the use of filtering equipment other than that described in subsections (4) (f) 1. and 2. of this section if the owner or operator demonstrates to the satisfaction of the department that the filtering of particulate asbestos material is equivalent to that of the described equipment.

4. All air-cleaning equipment authorized by this section must be properly installed, used, operated and maintained. Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

(g) Where the presence of uncombined water is the sole reason for failure to meet the no-visible-emission requirements of paragraphs (a), (c) or (e) of this section, such failure shall not be a violation of such emission requirements.

(5) CONTROL OF BERYLLIUM EMISSIONS. (a) Emissions to the atmosphere shall not exceed 10 grams of beryllium over a 24-hour period from:

1. Extraction plants, ceramic plants, foundries, incinerators and propellant plants which process beryllium ore, beryllium, beryllium oxide, beryllium alloys or beryllium-containing waste, and:

2. Machine shops which process beryllium, beryllium oxides or any alloy when such alloy contains more than 5% beryllium by weight.

(b) The burning of beryllium and/or beryllium-containing waste, except propellants, is prohibited except in incinerators, emissions from which must comply with paragraph (a).

(c) Emission to the atmosphere from rocket-motor test sites shall not cause time-weighted atmospheric concentration of beryllium to exceed 75 microgram minutes per cubic meter of air within the limits of 10 to 60 minutes, accumulated during any 2 consecutive weeks, in any area in which an effect adverse to public health could occur.

(d) If combustion products from the firing of beryllium propellant are collected in a closed tank, emissions from such tank shall not exceed 2 grams per hour and a maximum of 10 grams per day.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; cr. (3), Register, December, 1972, No. 204, eff. 1-1-73; cr. (4) and (5), Register, June, 1975, No. 234, eff. 7-1-75.

NR 154.20 Emergency episode levels and emergency emission control action programs. (1) **EMERGENCY 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 pollutant reaches the alert level specified below at any monitoring site and meteorological conditions are such that the pollutant concentrations can be expected to remain at the alert level for 12 or more hours or increase or, in the case of oxidants, to recur the following day at the same or a higher level, unless control actions are taken.

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

2. The particulates dose is equal to or greater than 2.8 COHs-hr. (3,500 ug-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, ug/m³, 24-hour average, and particulate ug/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 ug-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 ug-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 pollutant reaches the

warning level specified below at any monitoring site and meteorological conditions are such that pollutant concentrations can be expected to remain at the warning level for 12 or more hours or increase or, in the case of oxidants, to recur the following day at the same or a higher level, unless control actions are taken.

1. The SO₂ dose is equal to or greater than 5.6 ppm-hr. (15,000 ug-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 ug-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 0.8 or product of SO₂, ug/m³, 24-hour average and particulate ug/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 ug-hr/m³) for any consecutive 4-hour period in the preceding 8 hours.

6. The NO_x dose is equal to or greater than 4.8 ppm-hr. (9,040 ug-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 pollutant reaches the emergency level specified below at any monitoring site and meteorological conditions are such that this condition can be expected to continue for 12 or more hours, or, in the case of oxidants, to recur the following day.

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

3. The SO₂ and particulate combined — product of SO₂, ppm, 24-hour average and COHs, 24-hour average equal to 1.2 or product of SO₂, ug/m³, 24-hour average and particulate ug/m³, 24-hour average equal to 393 x 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 ug-hr/m³) for any consecutive 4-hour period in the preceding 8 hours.

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

(2) GENERAL PROGRAM. (a) Any person responsible for the operation of a direct source 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 the 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 (3) (e).

(b) Emission control action programs as required under section NR 154.20(2) (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 section NR 154.20(2) (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(2) (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(3) (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 program 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.

(3) 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(2) (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 wastes, 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.

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 (2) (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 (2) (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(2) (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:

i. Mining and quarrying of nonmetallic minerals.

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

iii. 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.

iv. 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.

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

vi. 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.

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

viii. 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.

ix. Automobile repair, automobile services, garages.

x. Establishments rendering amusement and recreation services, including motion picture theaters.

xi. 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

DEPARTMENT OF NATURAL RESOURCES 150-11

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. | <p>a. Substantial reduction by utilization of fuels having lowest available ash content.</p> <p>b. Maximum utilization of midday (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.</p> <p>c. Substantial reduction by diverting electric power generation to facilities outside of Alert Area.</p> | <p>a. Maximum reduction by utilization of fuels having lowest available ash content.</p> <p>b. Maximum utilization of midday (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.</p> <p>c. Maximum reduction by diverting electric power generation to facilities outside of Warning Area.</p> | <p>a. Maximum reduction by utilization of fuels having lowest available ash content.</p> <p>b. Maximum utilization of midday (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.</p> <p>c. Maximum reduction by diverting electric power generation to facilities outside of Emergency Area.</p> |
| 2. Coal or oil-fired process steam generating facilities. | <p>a. Substantial reduction by utilization of fuels having lowest available ash content.</p> <p>b. Maximum utilization of midday (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.</p> <p>c. Reduction of steam load demands consistent with continuing plant operations.</p> | <p>a. Maximum reduction by utilization of fuels having lowest available ash content.</p> <p>b. Maximum utilization of midday (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.</p> <p>c. Reduction of steam load demands consistent with continuing plant operations.</p> <p>d. Making ready for use a plan of action to be taken if an emergency develops.</p> | <p>a. Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage.</p> <p>b. Maximum utilization of midday (12:00 Noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.</p> <p>c. Taking the action called for in the emergency plan.</p> |
| 3. Manufacturing, processing, and mining industries. | <p>a. Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing, or deferring production and allied operations.</p> <p>b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances.</p> <p>c. Reduction of heat load demands for processing consistent with continuing plant operations.</p> | <p>a. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operations.</p> <p>b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances.</p> <p>c. Reduction of heat load demands for processing consistent with continuing plant operations.</p> | <p>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.</p> <p>b. Elimination of air contaminants from trade waste disposal processes which emit particles, gases, vapors or malodorous substances.</p> <p>c. Maximum reduction of heat load demands for processing.</p> |
| OR Other persons required by the Department to prepare standby plans. | | | |
| 4. Refuse disposal operations. | <p>a. Maximum reduction by prevention of open burning.</p> <p>b. Substantial reduction by limiting burning of refuse in incinerators to the hours between 12:00 Noon and 4:00 p.m.</p> | <p>a. Maximum reduction by prevention of open burning.</p> <p>b. Complete elimination of the use of incinerators.</p> | <p>a. Maximum reduction by prevention of open burning.</p> <p>b. Complete elimination of the use of incinerators.</p> |

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. | <p>a. Substantial reduction by utilization of fuels having lowest available sulfur content.</p> <p>b. Substantial reduction by diverting electric power generation to facilities outside of Alert Area.</p> | <p>a. Maximum reduction by utilization of fuels having lowest available sulfur content.</p> <p>b. Maximum reduction by diverting electric power generation to facilities outside of Warning Area.</p> | <p>a. Maximum reduction by utilization of fuels having lowest available sulfur content.</p> <p>b. Maximum reduction by diverting electric power generation to facilities outside of Emergency Area.</p> |
| 2. Coal or oil-fired process steam generating facilities. | <p>a. Substantial reduction by utilization of fuels having lowest available sulfur content.</p> <p>b. Reduction of steam load demands consistent with continuing plant operations.</p> | <p>a. Maximum reduction by utilization of fuels having the lowest available sulfur content.</p> <p>b. Reduction of steam load demands consistent with continuing plant operations.</p> <p>c. Reduction of heat load demands for processing consistent with continuing plant operations.</p> | <p>a. Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage.</p> <p>b. Taking the action called for in the emergency plan.</p> |
| 3. Manufacturing and processing industries. | <p>a. Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing, or deferring production and allied operations.</p> <p>b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances.</p> <p>c. Reduction of heat load demands for processing consistent with continuing plant operations.</p> | <p>a. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operations.</p> <p>b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances.</p> <p>c. Reduction of heat load demands for processing consistent with continuing plant operations.</p> | <p>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.</p> <p>b. Elimination of air contaminants from trade waste disposal processes which emit particles, gases, vapors or malodorous substances.</p> <p>c. Maximum reduction of heat load demands for processing.</p> |

Register, June, 1976, No. 234
Environmental Protection

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. | <p>a. Substantial reduction by utilization of fuel which results in the formation of less air contaminant.</p> <p>b. Substantial reduction by diverting electric power generation to facilities outside of Alert Area.</p> | <p>a. Maximum reduction by utilization of fuel which results in the formation of less air contaminant.</p> <p>b. Maximum reduction by diverting electric power generation to facilities outside of Warning Area.</p> | <p>a. Maximum reduction by diverting electric power generation to facilities outside of Emergency Area.</p> |
| 2. Process steam generating facilities. | <p>a. Substantial reduction by utilization of fuel which results in the formation of less air contaminant.</p> <p>b. Reduction of steam load demands consistent with continuing plant operations.</p> | <p>a. Maximum reduction by utilization of fuel which results in the formation of less air contaminant.</p> <p>b. Reduction of steam load demands consistent with continuing plant operations.</p> <p>c. Making ready for use a plan of action to be taken if an emergency develops.</p> | <p>a. Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage.</p> |
| 3. Manufacturing and processing industries. | <p>a. Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing, or deferring production and allied operations.</p> | <p>a. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing, production and allied operations.</p> | <p>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.</p> |
| OR | | | |
| Other persons required by the Department to prepare standby plans. | <p>b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances.</p> <p>c. Reduction of heat load demands for processing consistent with continuing plant operations.</p> | <p>b. Maximum reduction by deferring trade waste disposal operations which emit particles, gases, vapors or malodorous substances.</p> <p>c. Reduction of heat load demands for processing consistent with continuing plant operations.</p> | <p>b. Elimination of air contaminants from trade waste disposal processes which emit particles, gases, vapors or malodorous substances.</p> <p>c. Maximum reduction of heat load demands for processing.</p> |
| 4. Stationary internal combustion engines. | <p>a. Reduction of power demands for pumping consistent with continuing operations.</p> | <p>a. Reduction of power demands for pumping consistent with continuing operations.</p> <p>b. Maximum reduction by utilization of fuels or power source which results in the formation of less air contaminants.</p> | <p>a. Maximum reduction by reducing power demands to absolute necessities consistent with personnel safety and preventing equipment damage.</p> <p>b. Maximum reduction by utilization of fuels or power source which results in the formation of less air contaminants.</p> |
| 5. Refuse disposal operations. | <p>a. Maximum reduction by prevention of open burning.</p> <p>b. Substantial reduction by limiting burning of refuse in incinerators to the hours between 12:00 Noon and 4:00 p.m.</p> | <p>a. Maximum reduction by prevention of open burning.</p> <p>b. Complete elimination of the use of incinerators.</p> | <p>a. Maximum reduction by prevention of open burning.</p> <p>b. Complete elimination of the use of incinerators.</p> |

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. |
| e. 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. |
| OR | | | |
| Other persons required by the Department to prepare standby plans. | | | |

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. |

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; renum. (1) and (2) to be (2) and (3) and am., cr. (1), Register, June, 1975, No. 234, eff. 7-1-75.

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.

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

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.

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