

Chapter NR 154

AIR POLLUTION CONTROL

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History: Chapter NR 154 as it existed on March 31, 1972 was repealed and a new chapter NR 154 was created, Register, March, 1972, No. 195, effective April 1, 1972.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, 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 ch. 144, 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) "Accumulator" means the reservoir of a condensing unit receiving the condensate from the condenser. This includes hot wells.

(2) "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.

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

(4) "Air contaminant source" is any facility, building, structure, equipment, vehicle, or action, or combination thereof which may directly or indirectly result in the emission of any air contaminant.

Register, July, 1979, No. 283
Environmental Protection

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

1. "Direct source" is any stationary source which may directly result 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.

(b) "Portable source" is any facility, installation, operation or equipment which may directly result in the emission of any air contaminant only while at a fixed location but is capable of being transported to a different location (e.g., portable asphalt plant, portable package boiler, portable air curtain destructor, etc.). A modified portable source or a source which has never received a plan approval shall be considered a direct stationary source for the purpose of initial department approval of the source pursuant to sections NR 154.04 and NR 154.05.

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

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

(5) "Aircraft operation" is a landing or takeoff.

(6) "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 and combustible gases in the pit to bring about complete combustion.

(7) "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.

(8) "Air pollution episode levels" means 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 the air quality is continuing to degrade to a level which should never be reached and that the most stringent control actions are necessary.

(9) "Air quality maintenance area" means 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" means an area such as an AQCR 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" means the portion of the atmosphere external to buildings and to which the general public has access.

(12) "API" means American Petroleum Institute, 2101 L Street, N.W., Washington, D.C. 20001.

(13) "Application area" means the area where a coating is applied by spraying, dipping or flowcoating techniques.

(14) "Approved" means approved by the department of natural resources.

(15) "AQCR" means air quality control region. Air quality control regions all or part of which lie in Wisconsin are delineated in NR 155.02(2).

(16) "Areawide air quality analysis" means a macroscale analysis utilizing a modeling technique approved by the department.

(17) "Asbestos" means any of the six naturally occurring hydrated mineral silicates: actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite.

(a) "Asbestos material" means asbestos or any material containing asbestos.

(b) "Asbestos mill" means 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.

(c) "Asbestos tailings" means any solid waste products of asbestos minings or milling operations which contain asbestos.

(18) "ASME" means American Society of Mechanical Engineers, 345 E. 47th Street, New York, New York 10017.

(19) "Asphalt" means a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) in which the predominating constituents are bitumens which occur in nature as such or which are obtained as residue in refining petroleum.

(20) "Associated parking area" means a parking facility or facilities owned and/or operated in conjunction with an indirect source.

(21) "ASTM" means American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103.

(22) "Automobile" means all passenger cars or passenger car derivatives capable of seating 12 or fewer passengers.

(23) "Average daily traffic (ADT)" means 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.

(24) "Average monthly storage temperature" is, for the purpose of petroleum liquid storage, 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.

(25) "Boiler" means any device with an enclosed combustion chamber in which fuel is burned to heat a liquid for the primary purpose of producing heat or power by indirect heat transfer.

(26) "Bottom filling" means the filling of a tank truck or stationary storage tank through an opening that is flush with or near the tank bottom.

(27) "BTU" means British thermal unit.

(28) "Blade coating" means the application of a coating material to a substrate by means of drawing the substrate beneath a straight-edged blade that spreads the coating evenly over the full width of the substrate.

(29) "Bulk gasoline plant" means a gasoline storage and distribution facility which receives gasoline from bulk terminals, stores it in stationary storage tanks, and subsequently distributes it to gasoline dispensing facilities.

(30) "Bulk gasoline terminal" means a gasoline storage facility which receives gasoline from refineries primarily by pipeline, ship, or barge, and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck.

(31) "Capture system" means the equipment (including hoods, ducts, fans, etc.) used to contain, capture, or transport a pollutant to a control device.

(32) "Coating applicator" means a device or devices used at a single location in a coating line to apply a surface coating of a particular material.

(33) "Coating line" means one or more apparatus or operations, which may include a coating applicator, flash-off area, and oven, wherein a surface coating is applied, dried, and/or cured.

(34) "Coil coating" means the coating of any flat metal sheet or strip that comes in rolls or coils.

(35) "Cold cleaning" means the batch process of cleaning and removing soils from metal surfaces by spraying, brushing, flushing or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.

(36) "Commence construction" means 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.

(37) "Commence modification" means 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.

(38) "Commercial asbestos" means any variety of asbestos which is produced by extracting asbestos from asbestos ore.

(39) "Condensate" means hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions.

(40) "Condenser" means any heat transfer device used to liquefy vapors by removing their latent heats of vaporization. Such devices include, but are not limited to, shell and tube, coil, surface, or contact condensers.

(41) "Continuous vapor control system" means a vapor control system that destroys or removes vapors, such as those displaced from tanks during filling, on a demand basis without intermediate accumulation.

(42) "Control device" means equipment used to destroy or remove air contaminant(s) in a gas stream prior to emission.

(43) "Conveyorized degreasing" means the continuous process of cleaning and removing soils from metal surfaces by operating with either cold or vaporized solvents.

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

(45) "Custody transfer" means the transfer of produced crude oil and/or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

(46) "Cutback asphalt" means asphalt cement which has been liquefied by blending with petroleum solvents (diluent) other than residual oils. Upon exposure to atmospheric conditions the diluent evaporate, leaving the asphalt cement to perform its function. Emulsified asphalt which contains less than 5% by weight petroleum solvents (disregarding any residual oils added) are not included in this definition.

(47) "Day" means a 24-hour period beginning at midnight.

(48) "Delivery vessel" means a tank truck or trailer or a railroad tank car equipped with a storage tank used for the transport of gasoline from sources of supply to stationary storage tanks of bulk gasoline plants or gasoline dispensing facilities.

(49) "Department" means the department of natural resources, state of Wisconsin.

(50) "Dose" means the total exposure to a pollutant over a specified time period.

$$\text{Dose} = \frac{T_2}{T_1} \text{ CdT}$$

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, $C = f(T)$.

(51) "Emergency or reserve equipment" means that equipment used when normal equipment fails, or used only to meet high peak loads.

(52) "Emission" means a release, whether directly or indirectly, or any air contaminant to the ambient air.

(53) "Emulsified asphalt" means an emulsion of asphalt cement and water which contains a small amount of an emulsifying agent; a heterogeneous system containing 2 normally immiscible phases (asphalt and water) in which the water forms the continuous phase of the emulsion, and minute globules of asphalt form the discontinuous phase.

(54) "End sealing compound" means, for the purpose of can coating, a synthetic rubber compound which is coated onto can ends and which functions as a gasket when the end is assembled on the can.

(55) "Equivalent air-dried kraft pulp" means pulp production which produces a loading of black liquor solids to the recovery furnace equivalent to that loading produced with kraft pulp.

(56) "Equivalent opacity" means an opacity of 20% per Ringlemann number.

(57) "Exterior base coating" means, for the purpose of can coating, a coating applied to the exterior of a can to provide exterior protection to the metal and to provide background for the lithographic or printing operation.

(58) "Fabric coating" means the coating or printing of a textile substrate with a blade, roll, rotogravure or dip coater, or other coating applicator, to impart properties that are not initially present, such as strength, stability, water or acid repellancy, or appearance.

(59) "Facility" means an establishment—residential, commercial, institutional or industrial—which emits or causes emissions of air contaminants to the ambient air.

(60) "Firebox" means the chamber or compartment of a boiler or furnace in which materials are burned but does not mean the combustion chamber of an incinerator.

(61) "Flashoff area" means the space between the application area and the oven.

(62) "Floating roof" means a storage tank cover consisting of a double deck or pontoon single deck, 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. The floating roof may be either a covered external floating roof in an open storage tank or an internal floating cover beneath a fixed roof.

(63) "Forebays" mean the primary sections of a wastewater separator.

(64) "Freeboard height" means, for a cold cleaner, the distance from the liquid solvent level in the degreaser tank to the lip of the tank. For a vapor degreaser it means the distance from the top of the vapor zone to the lip of the degreaser tank.

(65) "Freeboard ratio" means the freeboard height divided by the width of the degreaser.

(66) "Fuel" means any solid, liquid or gaseous materials used to produce useful heat by burning.

(67) "Fuel gas" means any gas which is generated by a petroleum refinery process unit or by a petroleum liquid transfer operation and which is combusted, including any gaseous mixture of natural gas and fuel gas which is combusted.

(68) "Fugitive dust" means solid airborne particles emitted from any source other than a flue or stack.

(69) "Furniture metal coating" means the surface coating of any furniture made of metal or any metal part which will be assembled with other metal, wood, fabric, plastic or glass parts to form a furniture piece.

(70) "Gasoline" means any petroleum distillate having a Reid vapor pressure of 27.6 kilo Pascals (4 pounds per square inch absolute) or greater.

(71) "Gasoline dispensing facility" means any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.

(72) "Highway project" means all or a portion of a proposed new or modified section of highway. Where an environmental impact document is to be prepared, the highway project may be taken to cover the same length of highway.

(73) "Hydrocarbon" means any organic compound containing carbon and hydrogen.

(74) "Implementation plan" means a plan adopted to implement, maintain, and enforce air standards within an air region or portion thereof.

(75) "Incinerator" means a combustion apparatus designed for high temperature operation in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned to produce solid and gaseous residues containing little or no combustible material.

(76) "Interior sheet base coating" means, for the purpose of can coating, a coating applied by roller coater or spray to the interior side of sheets from which cans are formed to provide a protective lining between the can metal and product.

(77) "Interior body spray" means, for the purpose of can coating, a coating sprayed on the interior of the can body to provide a protective film between the product and the can.

(78) "Intermittent vapor control system" means a vapor control system that employs an intermediate vapor holder to accumulate vapors displaced from tanks during filling. The control device destroys or removes the accumulated vapors only during automatically controlled cycles.

(79) "Isokinetic sampling" means sampling in which the linear velocity of the gas entering the sampling nozzle is equal to that of the undisturbed gas stream at the same point.

(80) "Kraft process" means any pulping process which uses an alkaline sulfide solution containing sodium hydroxide and sodium sulfide for a cooking liquor.

(81) "Large appliances" means doors, cases, lids, panels and interior support parts of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners and other similar products. Not included are products of such weight that they are normally lifted only with powered lifting equipment or products which are intended to be permanently fastened in place.

(82) "Light-duty trucks" means any motor vehicles rated at 3864 kilograms (8500 pounds) gross weight or less which are designed primarily for the purpose of transporting goods and materials, or derivatives of such vehicles.

(83) "Loading rack" means an aggregation or combination of gasoline loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specific loading space.

(84) "Magnet wire coating" means the process of applying a coating of electrically insulating varnish or enamel to aluminum or copper wire for use in electrical machinery.

(85) "Manufacturing plant" means a facility where parts are manufactured, finished or assembled for eventual inclusion into a finished product ready for sale to retailers. With respect to the manufacture of motor vehicles, customizers, body shops and other repainters are not included in this definition.

(86) "Modification" means any change in physical size or method of operation of a stationary or portable 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 the change will cause or exacerbate a violation of any ambient air quality standard.

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.

(87) "New direct or portable source" means a direct or portable source, the construction or modification of which is commenced after April 1, 1972, or the effective date of promulgation of an emission limit which applies.

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

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

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

(91) "Opacity" means the state of a substance which renders it partially or wholly impervious to rays of light. (20% opacity equals one unit on the Ringlemann Chart.)

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

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

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

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

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

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

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

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

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

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

(102) "Particulate or particulate matter" means:

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

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

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

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

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

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

(107) "Person" means any individual, corporation, company, cooperative, owner, tenant, lessee, syndicate, partnership, co-partnership, firm, association, trust, estate, public or private institution, joint stock company, political subdivision of the state of Wisconsin, state agency, or any legal successor, representative, agent or agency of the foregoing.

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

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

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

(111) "Photochemically reactive organic substances" means, for a source on which construction or modification is commenced after July* 1, [August 1,] 1979, any organic compound. For a source on which construction or modification is commenced on or before July* 1, [August 1,] 1979, it means any of the following:

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

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

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

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

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

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

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

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

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

(114) "Process line" means 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).

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

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

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

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

(119) "Reasonably available control technology (RACT)" means that which provides the lowest emission rate that a particular source is capable of achieving by the application of control technology that is reasonably available considering technological and economic feasibility. Such technology may previously have been applied to similar, but not necessarily identical, source categories.

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

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

(122) "Ringlemann Chart" means the chart published by the U.S. bureau of mines in which are illustrated graduated shades of grey to black

for use in estimating the shade or density of smoke. (One unit on the Ringlemann Chart equals 20% opacity).

Note: See Ringlemann Chart published December, 1950, by the U.S. bureau of mines. Copies of "Fundamentals of Smoke Abatement," December, 1950, Ringlemann Chart, Information Circular 7688, are available for inspection at the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin, and may be obtained for personal use from the U.S. department of interior, Washington, D.C.

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

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

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

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

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

(128) "Smoke" means all products of combustion of sufficient density to be observable, including but not limited to carbon, dust, fly ash, and other particles, but not including uncombined water.

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

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

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

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

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

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

(a) Appleton-Oshkosh, Wisconsin SMSA:

1. Calumet county
2. Outagamie county

3. Winnebago county

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

1. (c) Eau Claire, Wisconsin SMSA: Eau Claire county

2. Chippewa county

(d) Green Bay, Wisconsin SMSA: Brown county

(e) Kenosha, Wisconsin SMSA: Kenosha county

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

(g) Madison, Wisconsin SMSA: Dane county

(h) Milwaukee, Wisconsin SMSA:

1. Milwaukee county

2. Ozaukee county

3. Washington county

4. Waukesha county

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

(j) Racine, Wisconsin SMSA: Racine county

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

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

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

(137) "Surface coating" means the application of a coating to a product in a coating line. Application of architectural coatings and road surfacing material is not included.

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

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

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

(141) "Traffic volume" means the number of vehicles that pass a particular point on the roadway during a specific time period. Volume can

be expressed in terms of daily traffic or annual traffic as well as on an hourly basis.

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

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

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

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

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

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

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

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

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

(151) "Volatile organic compound (VOC)" means any compound of carbon that has a vapor pressure greater than 0.1 millimeter of mercury (0.0019 pounds per square inch absolute) at standard conditions, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

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

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72, renum. (41) (a) 6 to be (41) (c); am. (41) (c) 3. and 4., Register, December, 1972, No. 204, eff. 1-1-73; r. and recr., Register, June, 1975, No. 234, eff. 7-1-75; renum. (3) (b) and (c) to be (3) (c) and (d), renum. (3) (a) 3. to be (3) (b) and am., am. (38) (intro.), Register, April, 1977, No. 256, eff. 5-1-77; r. and recr., Register, July, 1979, No. 283, eff. 8-1-79.

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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 s. 144.35 (1) (b), 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:

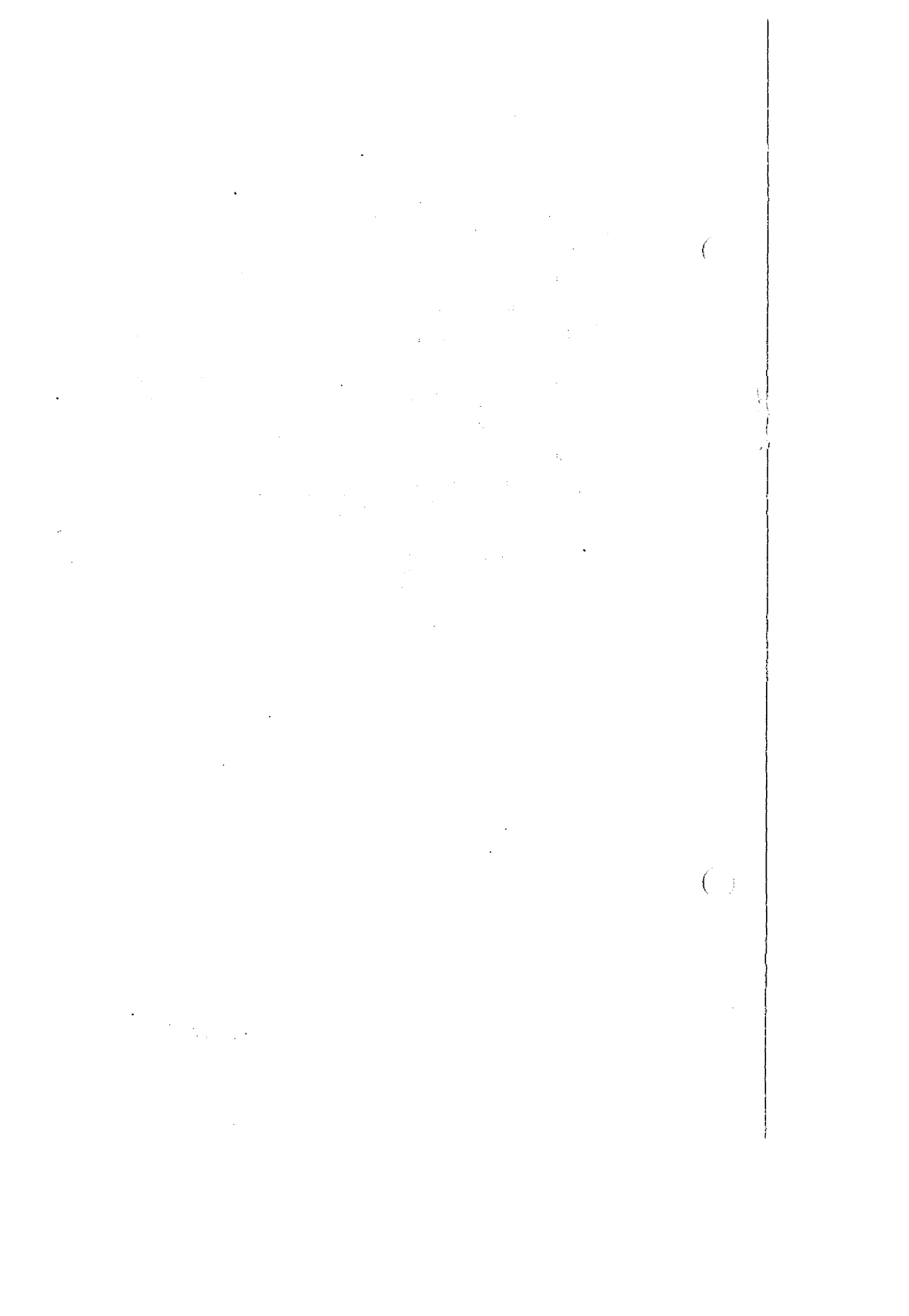
(a) The cause of the violation was a mechanical breakdown, act of God, or some other condition beyond the entity's control;

(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);

(d) If the source is a new source, the cause of the violation was a mechanical breakdown or act of God which was demonstrably beyond the entity's control when using all prudent planning;

(e) The air contaminant for which a deferral is sought is not a hazardous pollutant for which an emission standard has been



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. Exemptions listed in (6) (a) 1. of this section shall apply.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; r. and recr. (8) to (6), r. (7), Register, June, 1976, No. 234, eff. 7-1-76; emerg. am. (4) (b) 3, eff. 12-3-76; am. (4) (a) 1, a. and (4) (b) 3. (intro.) r. and recr. (4) (b) 3. a., Register, April, 1976, No. 244, eff. 5-1-76; am. (4) (a), Register, November, 1976, No. 251, eff. 12-1-76.

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

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

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

1. Firing of liquid fossil fuel: 0.80 pounds of SO₂ per million BTU input.

2. Firing of solid fossil fuel: 1.2 pounds of SO₂ per million BTU input.

(b) New or modified sulfuric acid plants other than those utilized primarily as a means of preventing emission to the ambient air of sulfur dioxide or other sulfur compounds: 4.0 pounds of SO₂ per ton of acid produced.

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

(3) **PETROLEUM REFINERIES.** No person shall cause, suffer, allow or permit the release into the atmosphere or the burning of any fuel gas in an incinerator-waste heat boiler or process heater which contains greater than 0.10 grains of hydrogen sulfide (H₂S) per dry cubic foot at

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standard conditions (0.23 grams per dry cubic meter at standard conditions) unless the gases resulting from combustion are treated in a manner which prevents the release of sulfur dioxide to the atmosphere as effectively as controlling the concentration of H₂S in the fuel gas being burned.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; cr. (3), Register, June, 1975, No. 234, eff. 7-1-75; cr. (2) (c), Register, April, 1976, No. 244, eff. 5-1-76.

NR 154.13 Control of organic compound emissions. (1) GENERAL LIMITATIONS. (a) No person shall cause, allow or permit organic compound emissions into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution.

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

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

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

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

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

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

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

Note: See American Society for Testing and Materials, Part 17, 1973. Copies of applicable standards from Part 17; Petroleum Products - Fuels, Solvents, Burner Fuel Oils, Lubricating Oils, Cutting Oils, Lubricating Greases, Hydraulic Fluids; are available for inspection at the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin, and may be obtained for personal use from ASTM, 1916 Race Street, Philadelphia, PA 19103.

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2) 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.

3) Pressure vessels which are designed to operate at pressures in excess of 104 kilo Pascals (15 pounds per square inch gauge) without emissions except under emergency conditions.

4) Subsurface caverns or porous rock reservoirs.

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

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

c. Effective July* 1, [August 1,] subd. (2) (a) 5 applies, subject to the provisions of sub. (9), to all fixed roof storage vessels with capacities greater than 151,412 liters (40,000 gallons) with the exception of those having capacities less than 1,600,000 liters (416,000 gallons) used to store crude petroleum and condensate prior to custody transfer.

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

a. If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 10.5 kilo Pascals (1.52 pounds per square inch absolute) but not greater than 77 kilo Pascals (11.1 pounds per square inch absolute), the storage vessel shall be equipped with a floating roof, a vapor recovery system or their equivalents.

b. If the true vapor pressure of the petroleum liquid, as stored, is greater than 77 kilo Pascals (11.1 pounds per square inch absolute) the storage vessel shall be equipped with a vapor recovery system or its equivalent.

3. Monitoring requirements. a. The owner or operator of any storage vessel to which this subdivision 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.

b. The owner or operator of any storage vessel to which this subdivision 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:

1) The petroleum liquid has a true vapor pressure, as stored, greater than 3.5 kilo Pascals (0.51 pounds per square inch absolute) but less than 10.5 kilo Pascals (1.52 pounds per square inch absolute) and is stored in a vessel other than one equipped with a floating roof, a vapor recovery system or their equivalents; or

2) The petroleum liquid has a true vapor pressure, as stored, greater than 63 kilo Pascals (9.1 pounds per square inch absolute) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent.

c. 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 shall be made available on request to the department when typical Reid vapor pressure is used.

Note: See American Petroleum Institute, Bulletin 2517 *Evaporation Loss from Floating Roof Tanks*, February, 1962. Copies of *Evaporation Loss from Floating Roof Tanks* are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin, and may be obtained for personal use from the American Petroleum Institute, 1801 K. Street, N.W., Washington, D. C. 20006.

4. Maintenance requirements. No person shall place, hold or store in a storage vessel any petroleum liquid which has a true vapor pressure as stored greater than 10.5 kilo Pascals (1.52 pounds per square inch absolute) unless:

a. Any tank surface exposed to the rays of the sun is painted and maintained white so as to prevent excessive temperature and vapor pressure increases; and

b. The seals of any floating roof are maintained so as to minimize emissions; and

c. All gauging and sampling devices are vapor-tight except when gauging or sampling is taking place.

5. No owner or operator of a fixed roof storage vessel to which this subdivision applies shall permit such storage vessel to be used for storing any petroleum liquid which has a true vapor pressure as stored greater than 10.5 kilo Pascals (1.52 pounds per square inch absolute), unless:

a. The vessel has been retrofitted with an internal floating roof equipped with a closure seal, or seals, to close the space between the roof edge and tank wall; or

b. The vessel has been retrofitted with equally effective alternative control, approved by the department; and

c. The vessel is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials; and

d. All openings, except stub drains, are equipped with covers, lids, or seals such that;

1) The cover, lid or seal is in the closed position at all times except when in actual use; and

2) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports; and

3) Rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting; and

e. Routine inspections are conducted through roof hatches at monthly intervals during the ozone season; and

f. A complete inspection of cover and seal is conducted whenever the tank is emptied, though not more frequently than at 6 month intervals nor less frequently than at 8 year intervals; and

g. Records are maintained that shall include:

1) The results of inspections conducted under (2) (a) 5.e. and f. of this section; and

2) The information required under sub. (2) (a) 3.

(b) Storage of photochemically reactive organic substances. 1. Applicability. a. Subdivision (2) (b) 2. applies to all storage tanks for photochemically reactive organic substances having capacities greater than 151,412 liters (40,000 gallons) in the Southeastern Wisconsin Intrastate AQCR, and to all such storage tanks throughout the state on which construction or modification is commenced after April 1, 1972. Where a provision of par. (2) (a) also applies, the more stringent requirement shall be met.

2. When storing photochemically reactive organic compounds, solvents or mixtures having a vapor pressure greater than 10.5 kilo Pascals (1.52 pounds per square inch absolute) at 21°C (70°F), floating roofs, vapor condensation systems, vapor holding tanks, or equally effective alternative control methods approved by the department shall be used.

(3) TRANSFER OPERATIONS. (a) Bulk gasoline terminals. 1. Applicability. a. Effective July* 1, [August 1,] 1979, par. (3) (a) applies, subject to the provisions of sub. (9), to all bulk gasoline terminals and the associated equipment necessary to load tank truck or trailer compartments.

2. No person may load gasoline into any tank trucks or trailers from any bulk gasoline terminal unless:

a. The bulk gasoline terminal is equipped with a vapor control system which is properly installed, in good working order, in operation and consisting of one of the following:

1) An adsorber, absorption, refrigeration or condensation system; or

2) A vapor collection system which directs all vapors to a fuel gas system; or

3) A control system demonstrated to have control efficiency equivalent to or greater than 1) or 2) above and approved by the department; and

b. All displaced vapors and gases are vented only to the vapor control system; and

c. A means is provided to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected; and

d. All loading and vapor lines are equipped with fittings which make vapor-tight connections and which close automatically when disconnected.

3. The vapor control system required under (3) (a) 2.a. shall not allow mass emissions of volatile organic compounds from control equipment to exceed 80 milligrams per liter (4.7 grains per gallon) of gasoline loaded.

4. Sources to which par. (3) (a) applies shall not:

a. Allow gasoline to be discarded in sewers or stored in open containers, par. (1) (c) notwithstanding; nor

b. Allow the pressure in the vapor collection system to exceed the tank truck or trailer pressure relief settings.

(b) Bulk gasoline plants. 1. Applicability. a. Effective July* 1, [August 1,] 1979, par. (3) (b) applies, subject to the provisions of sub. (9), to the loading and storage facilities of all bulk gasoline plants which have a 3 year average annual throughput of 1,330,000 liters (350,000 gallons) of gasoline or more; to the unloading, loading, and storage facilities of all bulk gasoline plants which have a 3 year average annual throughput of 3,800,000 liters (1,000,000 gallons) of gasoline or more; and to all delivery vessels involved in such loading or unloading operations, with the following exceptions:

1) The loading or unloading of stationary storage tanks with a capacity of 2,176 liters (575 gallons) or less, notwithstanding NR 154.06 (8).

2) Bulk plant unloading facilities, the delivery vessels receiving gasoline from bulk plants, and the operation of transferring gasoline from bulk plant to delivery vessel when the transfer takes place outside the counties of Brown, Calumet, Dane, Dodge, Fond du Lac, Jefferson, Kenosha, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha and Winnebago or when the gasoline is delivered exclusively to facilities exempted from the requirements of par. (3) (c) by (3) (c) 1.a. 2), 4), 5), 6) or 7). However, par. (3) (b) does apply if gasoline is transferred during the ozone season to a delivery vessel whose last previous delivery was to a gasoline dispensing facility (either inside or outside of Wisconsin) which is required to have a vapor balance system.

2. No owner or operator of a bulk gasoline plant shall permit stationary storage tanks to load or unload gasoline unless each tank is equipped with a vapor balance system as described under subd. (3) (b) 5. and approved by the department; and

a. Each tank is equipped with a submerged fill pipe approved by the department; or

b. Each tank is equipped with a fill line whose discharge opening is flush with or near the bottom of the tank.

3. No owner or operator of a bulk gasoline plant or delivery vessel shall permit the gasoline transfer operations regulated under par. (3) (b) unless each delivery vessel involved in such operations is equipped with a vapor balance system as described under subd. (3) (b) 5. and approved by the department; and

a. Equipment is available at the bulk gasoline plant to provide for the submerged filling of each delivery vessel; or

b. Each delivery vessel is equipped for bottom filling.

4. No owner or operator of a bulk gasoline plant or delivery vessel shall permit the transfer of gasoline unless:

- a. Submerged or bottom filling is used; and
- b. The vapor balance system is in good working order and is connected and operating; and
- c. Delivery vessel hatches are closed at all times during transfer operations; and
- d. There are no leaks in the delivery vessels' pressure/vacuum relief valves and hatch covers, nor in the delivery vessel tanks or stationary storage tanks or associated vapor and liquid lines during loading or unloading; and
- e. The pressure relief valves on stationary storage tanks and delivery vessels are set to release at no less than 4.8 kilo Pascals (0.7 pounds per square inch gauge), or the highest possible pressure consistent with state or local fire codes or the national fire prevention association guidelines.

5. Vapor balance systems required under subds. (3) (b) 2. and 3. shall include vapor space connections on the stationary storage tank and on the delivery vessel with connecting pipe or hose. These connections are required either for loading of the bulk plant storage tank only or for both loading and unloading, as indicated in subd. (3) (b) 1. Both sides of all junctions shall be equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of organic compound vapors.

6. Notwithstanding par. (1) (c), no owner or operator of a bulk gasoline plant shall permit gasoline to be spilled, discarded in sewers or stored in open containers.

(c) Gasoline dispensing facilities. 1. Applicability. a. Effective July,* [August 1,] 1979, par. (3) (c) applies, subject to the provisions of sub. (9), to gasoline dispensing facilities, to the delivery vessels used to bring these facilities the gasoline which they dispense, and to the operation of transferring gasoline to the dispensing facilities with the following exceptions:

1) Gasoline dispensing facilities which are supplied exclusively by bulk gasoline plants whose unloading operations are exempted from the requirements of par. (3) (b) by (3) (b) 1.a.

2) Gasoline dispensing facilities located outside the counties of Brown, Calumet, Dane, Dodge, Fond du Lac, Jefferson, Kenosha, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha and Winnebago.

3) Delivery vessels used exclusively to supply exempt gasoline dispensing facilities or used exclusively for the transfer operations exempted under 4) through 7) below.

4) Transfers made to storage tanks of gasoline dispensing facilities equipped with floating roofs or their equivalent which have been approved by the department.

5) Transfers made to any stationary storage tank at a gasoline dispensing facility with a capacity of 7,580 liters (2,000 gallons) or less which is in place on or before July* 1, [August 1,] 1979.

6) Transfers made to any stationary storage tank at a gasoline dispensing facility with a capacity of 2,176 liters (575 gallons) or less which is installed after July* 1, [August 1,] 1979.

7) Transfers made to stationary gasoline storage tanks with a capacity of 2,176 liters (575 gallons) or less used primarily for the fueling of agricultural equipment.

2. No owner or operator of a gasoline dispensing facility and no owner of a gasoline storage tank at such a facility shall transfer or cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank not excluded under subd. (3) (c) 1. unless the storage tank is equipped with a submerged fill pipe and the vapors displaced from it by filling during the ozone season are processed by a vapor control system in accordance with subd. (3) (c) 3.

3. A vapor control system required by subd. (3) (c) 2. shall include one or more of the following:

a. A vapor balance system with a vapor-tight vapor return line from the storage tank to the delivery vessel and a system that will ensure the vapor line is connected before gasoline can be transferred into the storage tank; or

b. A refrigeration-condensation system or equivalent capable of recovering at least 90% by weight of the organic compounds in the displaced vapor; or

c. A system demonstrated to have control efficiency equivalent to or greater than that provided under a. or b. above and approved by the department.

4. During the ozone season, the operator of a delivery vessel shall not commence transfer of gasoline to any gasoline dispensing facility equipped with a vapor balance system pursuant to (3) (c) 3.a. without first properly connecting the vapor return line. The delivery vessel shall be designed, maintained and operated to be vapor tight at all times that it is vapor-laden.

5. During the ozone season, vapor-laden delivery vessels shall be refilled in Wisconsin only at:

a. Bulk gasoline terminals complying with par. (3) (a); or

b. Bulk gasoline plants equipped with a vapor balance system for unloading as described in subd. (3) (b) 5.

6. Each owner of a gasoline storage tank or delivery vessel shall:

a. Install all necessary control systems and make all necessary process modifications in accordance with subsd. 2., 3., 4. and 5. of par. (3) (c); and

b. Repair, replace or modify any worn out or malfunctioning component or element of design, and keep such records as may be requested in writing by the department relating to the repair, replacement or modification of any component or element of design of the control system.

7. Each owner of a gasoline storage tank shall provide written instructions to the operator of the gasoline dispensing facility describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of the control system.

8. Each operator of a gasoline dispensing facility shall:

a. Maintain and operate the control system in accordance with the specifications and the operating and maintenance procedures specified by the owner; and

b. Promptly notify the owner of the control system of any scheduled maintenance or of any malfunction requiring replacement or repair of major components of the system; and

c. Keep on the premise a copy of the instructions provided pursuant to subd. (3) (c) 7. and make these instructions available to an authorized representative of the department on request; and

d. Maintain such records on maintenance and malfunction as may be requested in writing by the department; and

e. Maintain gauges, meters, or other specified testing devices in proper working order.

(d) Transfer of photochemically reactive organic substances. 1. Applicability. a. Paragraph (3) (d) applies to transfer operations in the Southeastern Wisconsin Intrastate AQCR involving photochemically reactive organic compounds, solvents or mixtures having a vapor pressure greater than 10.5 kilo Pascals (1.52 pounds per square inch absolute) at 21°C (70°F), and to such transfer operations throughout the state at facilities on which construction or modification was commenced after April 1, 1972. Where a provision elsewhere in sub. (3) also applies, the more stringent requirement shall be met.

2. For transfers to storage tanks having greater than 3,785 liter (1,000 gallon) capacity, a permanent submerged fill pipe shall be used, provided such a tank does not have controls mentioned in subd. (2) (b) 2.

3. At facilities with over 151,412 liters (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 shall be used.

4. At facilities with 151,142 liters (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.

(4) SURFACE COATING PROCESSES. (a) General applicability. 1. Subsection (4) applies to any facility which contains one or more of the surface coating processes described in this subsection which is located in the county of Brown, Calumet, Dane, Dodge, Fond du Lac, Jefferson, Kenosha, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha, or Winnebago or which has total emission of volatile organic compounds from the facility that are, or would be with any emission control equipment inoperative, more than 100 tons per year, with the following exceptions:

a. Surface coating process sources whose emissions of volatile organic compounds are less than or equal to 6.8 kilograms (15 pounds) in any one day, and less than or equal to 1.4 kilograms (3 pounds) in any one hour, provided the emission rates are determined and certified before September** 1, [October 1,] 1979 in a manner approved by the department.

b. Surface coating process sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance where:

1) The operation of the source is not an integral part of the production process; and

2) The emissions from the source do not exceed 363 kilograms (800 pounds) in any calendar month; and

3) The exemption is approved in writing by the department.

(b) Methods of compliance. 1. The surface coating emission limits under subs. (4) (c) 2., (4) (d) 2., (4) (e) 2., (4) (f) 2., (4) (g) 2., (4) (h) 2., (4) (i) 2. and (4) (j) 2. shall be achieved by:

a. The application of low solvent content coating technology; or

b. A vapor recovery system which recovers the solvent for reuse; or

c. Incineration or catalytic oxidation, provided that 90% of the nonmethane volatile organic compounds (VOC measured as total combustible carbon) which enter the incinerator or oxidation unit are oxidized to nonorganic compounds; or

d. An equivalent system demonstrated to reliably control emissions to a level at or below the applicable emission limit and approved by the department.

2. The design, operation, and efficiency of any capture system used in conjunction with (4) (b) 1.b., c. or d. shall be certified in writing by the owner or operator. The certification shall demonstrate that the applicable emission limit will be achieved. The capture system is subject to approval by the department.

(c) Can coating. 1. Applicability. a. Effective July* 1, [August 1,] 1979, par. (4) (c) applies, subject to the provisions of sub. (9), to coating applicator(s) and oven(s) of sheet, can or end coating lines involved in sheet basecoat (exterior and interior) and overvarnish; two-piece can exterior (basecoat and overvarnish); two and three-piece can interior body spray; two-piece can exterior end (spray or roll coat); three-piece can side-seam spray and end sealing compound operations. Paragraph (4) (c) does not apply to sources exempted under par. (4) (a).

2. No owner or operator of a can coating line shall cause, allow or permit the emission of any volatile organic compounds in excess of:

a. 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, delivered to each coating applicator from sheet basecoat (exterior and interior) and overvarnish or two-piece can exterior (basecoat and overvarnish) operations,

b. 0.51 kilograms per liter of coating (4.2 pounds per gallon), excluding water, delivered to each coating applicator from two- and three-piece

can interior body spray and two-piece can exterior end (spray or roll coat) operations,

c. 0.66 kilograms per liter of coating (5.5 pounds per gallon), excluding water, delivered to each coating applicator from three-piece can side-seam spray operations, or

d. 0.44 kilograms per liter of coating (3.7 pounds per gallon), excluding water, delivered to each coating applicator from end sealing compound operations.

(d) Coil coating. 1. Applicability. a. Effective July* 1, [August 1,] 1979, par. (4) (d) applies, subject to the provisions of sub. (9), to the coating applicator (s), oven (s) and quench area (s) of coil coating lines involved in prime and top coat or single coat operations. Paragraph (4) (d) does not apply to sources exempted under par. (4) (a).

2. No owner or operator of a coil coating line shall cause, allow or permit the emission of any volatile organic compounds in excess of 0.31 kilograms per liter of coating (2.6 pounds per gallon), excluding water, delivered to each coating applicator from prime and topcoat or single coat operations.

(e) Paper coating. 1. Applicability. a. Effective July* 1, [August 1,] 1979, par. (4) (e) applies, subject to the provisions of sub. (9), to the coating applicator (s), including but not limited to blade, air knife or roll coater (s), and drying oven (s) of paper coating lines. Paragraph (4) (e) does not apply to any piece of equipment on which a nonuniform coating is applied to a substrate, as in printing, or to sources exempted under par. (4) (a).

2. No owner or operator of a paper coating line shall cause, allow or permit the emission of any volatile organic compounds in excess of 0.35 kilograms per liter of coating (2.9 pounds per gallon), excluding water, delivered to each coating applicator from a paper coating line.

(f) Fabric and vinyl coating. 1. Applicability. a. Effective July* 1, [August 1,] 1979, par. (4) (f) applies, subject to the provisions of sub. (9), to the coating applicators, including but not limited to blade, roll, rotogravure or dip coater (s), and drying oven (s) of fabric and vinyl coating lines. Paragraph (4) (f) does not apply to sources exempted under par. (4) (a).

2. No owner or operator of a fabric coating line or a vinyl coating line shall cause, allow or permit the emission of any volatile organic compounds in excess of:

a. 0.35 kilograms per liter of coating (2.9 pounds per gallon), excluding water, delivered to each coating applicator from a fabric coating line.

b. 0.45 kilograms per liter of coating (3.8 pounds per gallon), excluding water, delivered to each coating applicator from a vinyl coating line.

(g) Automobile and light-duty truck manufacturing. 1. Applicability. a. Effective July* 1, 1979 [August 1,] 1979, par. (4) (g) applies, subject to the provisions of par. (9) (f), to the application area (s), flashoff area (s), and oven (s) of automobile and light-duty truck manufacturing plants involved in prime, topcoat and final repair coating of metallic front end and main body parts. Paragraph (4) (g) does not apply to the coating of wheels, trunk interiors, steering columns or nonmetallic parts;

to sealers or nonpriming anti-rust coatings; or to sources exempted under par. (4) (a).

2. No owner or operator of an automobile surface coating line which, prior to January 1, 1979, used an enamel coating system, shall cause, allow or permit the emission of any volatile organic compounds in excess of:

a. After December 31, 1983, 0.14 kilograms per liter of coating (1.2 pounds per gallon), excluding water, from an electrodeposition prime coat or equivalent coating line.

b. After December 31, 1982, 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, from a spray primer-surfacer coating line.

c. After December 31, 1982, and until December 31, 1985, 0.45 kilograms per liter of coating (3.7 pounds per gallon), excluding water, from a topcoat coating line.

d. After December 31, 1985, 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, from a topcoat coating line.

e. After December 31, 1982, 0.58 kilograms per liter of coating (4.8 pounds per gallon), excluding water, from any final repair coating line.

3. No owner or operator of an automobile surface coating line which, prior to January 1, 1979, used a lacquer coating system, shall cause, allow or permit the emission of any volatile organic compounds in excess of:

a. After July* 1, [August 1,] 1979, and until December 31, 1982, 0.27 kilograms per liter of coating (2.2 pounds per gallon), excluding water, from an electrodeposition prime coat coating line.

b. After December 31, 1982, 0.14 kilograms per liter of coating (1.2 pounds per gallon), excluding water, from an electrodeposition prime coat coating line.

c. After December 31, 1980, and until December 31, 1986, 0.36 kilograms per liter of coating (3.0 pounds per gallon), excluding water, from a spray primer-surfacer coating line.

d. After December 31, 1986, 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, from a spray primer-surfacer coating line.

e. After December 31, 1979, and until December 31, 1981, 0.70 kilograms per liter of coating (5.8 pounds per gallon), excluding water, from a topcoat coating line.

f. After December 31, 1981, and until December 31, 1986, 0.61 kilograms per liter of coating (5.0 pounds per gallon), excluding water, from a topcoat coating line.

g. After December 31, 1986, 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, from a topcoat coating line.

h. After July* 1, [August 1,] 1979, and until December 31, 1986, 0.79 kilograms per liter of coating (6.5 pounds per gallon), excluding water, from any final repair coating line.

i. After December 31, 1986, 0.58 kilograms per liter of coating (4.8 pounds per gallon), excluding water, from any final repair coating line.

4. No owner or operator of a light-duty truck surface coating line shall cause, allow or permit the emission of any volatile organic compounds in excess of:

a. After January 1, 1981, and until December 31, 1982, 0.27 kilograms per liter of coating (2.2 pounds per gallon), excluding water, from an electrodeposition prime coat coating line.

b. After December 31, 1982, 0.14 kilograms per liter of coating (1.2 pounds per gallon), excluding water, from an electrodeposition prime coat coating line.

c. After December 31, 1980, and until December 30, 1987, 0.41 kilograms per liter of coating (3.4 pounds per gallon), excluding water, from a spray primer-surfacer coating line.

d. After December 31, 1987, 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, from a spray primer-surfacer coating line.

e. After December 31, 1982, and until December 30, 1987, 0.44 kilograms per liter of coating (3.6 pounds per gallon), excluding water, from a topcoat coating line.

f. After December 30, 1987, 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, from a topcoat coating line.

g. After December 31, 1982, 0.58 kilograms per liter of coating (4.8 pounds per gallon), excluding water, from any final repair coating line.

5. Each emission limit in par. (4) (g) may be interpreted as a weighted daily average, or as an instantaneous arithmetic average of the colors in use, whichever is specified in an approved compliance plan. The emission limits are referenced to water-borne coatings conventionally applied. Any coating line which achieves an equivalent emission rate per unit area coated shall be deemed in compliance.

(h) Furniture metal coating. 1. Applicability. a. Effective July* 1, [August 1,] 1979, par. (4) (h) applies, subject to the provisions of sub. (9), to the application area (s), flashoff areas (s), and oven (s) of furniture metal coating lines involved in prime and topcoat or single coating operations. Paragraph (4) (h) does not apply to sources exempted under par. (4) (a).

2. No owner or operator of a furniture metal coating line shall cause, allow, or permit the emission of any volatile organic compounds in excess of 0.36 kilograms per liter of coating (3.0 pounds per gallon), excluding water, delivered to each coating applicator from prime and topcoat or single coat operations.

(i) Surface coating of large appliances. 1. Applicability. a. Effective July* 1, [August 1,] 1979, par. (4) (i) applies, subject to the provisions of sub. (9), to application area (s), flashoff area (s), and oven (s) of large appliance coating lines involved in single, prime, or topcoat coating operations. Paragraph (4) (i) does not apply to:

1) Sources exempted under par. (4) (a); or

2) The use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, provided that the volume of coating does not exceed 0.95 liters (1 quart) in any one 8-hour period for any appliance coating line.

2. No owner or operator of a large appliance coating line shall cause, allow or permit the emission of any volatile organic compounds in excess of 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, delivered to each coating applicator from single, prime, or topcoat coating operations.

(j) Magnet wire coating. 1. Applicability. a. Effective July* 1, [August 1,] 1979, par. (4) (j) applies, subject to the provisions of sub. (9), to the oven(s) of magnet wire coating operations. Paragraph (4) (j) does not apply to sources exempted under par. (4) (a).

2. No owner or operator of a magnet wire coating oven shall cause, allow or permit the emission of any volatile organic compounds in excess of 0.20 kilograms per liter of coating (1.7 pounds per gallon), excluding water, delivered to each coating applicator from magnet wire coating operations.

(5) USE OF ROAD SURFACING MATERIALS. (a) Cutback asphalts. 1. Applicability. a. Paragraph (5) (a) applies to the mixing, storage, use and application of cutback asphalts in Wisconsin. Paragraph (5) (a) does not apply to cutback asphalts intended for uses other than application to surfaces traversed by motor vehicles, bicycles or pedestrians.

2. The following restrictions apply to the mixing, open storage, use or application of cutback asphalts during the ozone season:

a. After July* 1, [August 1,] 1979, the use of rapid curing cutback asphalts shall not be permitted.

b. After May 1, 1980, the use of cutback asphalts for sealcoating operations shall not be permitted except where a single coat of liquid asphalt is applied to an aggregate base to control dust.

c. After May 1, 1981, the use of cutback asphalts shall not be permitted except for the aggregate base application allowed in (5) (a) 2.b., and for use as a penetrating prime coat during the first and last months of the ozone season.

(6) SOLVENT CLEANING OPERATIONS. (a) Solvent metal cleaning. 1. Applicability. a. Effective July* 1, [August 1,] 1979, par. (6) (a) applies, with a final compliance deadline of May 1, 1980, or as provided by a compliance schedule issued or approved pursuant to par. (9) (e), to cold cleaning, open top vapor degreasing and conveyorized degreasing operations.

b. Paragraph (6) (a) does not apply to individual cold cleaners to which not more than 5.7 liters (1.5 gallons) of solvent is added per day or to individual open top vapor or conveyorized degreasers whose emissions of volatile organic compounds are not more than 6.8 kilograms (15 pounds) in any one day, nor more than 1.4 kilograms (3 pounds) in any one hour, provided:

1) The degreaser is located outside the counties of Brown, Calumet, Dane, Dodge, Fond du Lac, Jefferson, Kenosha, Manitowoc, Milwaukee,

Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha and Winnebago; and

2) The emission rates from open top vapor and conveyORIZED degreasers are determined and certified before September** 1, [October 1,] 1979 in a manner approved by the department.

c. Paragraph (6) (a) also does not apply to sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance where:

1) The operation of the source is not an integral part of the production process; and

2) The emissions from the source do not exceed 363 kilograms (800 pounds) in any calendar month; and

3) The exemption is approved in writing by the department.

d. The requirements of (6) (a) 2.b through g. do not apply to cold cleaners with an open area smaller than 0.1 square meter (1.1 square feet).

e. The requirements of (6) (a) 3.c.2) and 4) do not apply to open top vapor degreasers with an open area smaller than 1.0 square meter (10.8 square feet).

f. The requirements of (6) (a) 4.c do not apply to conveyORIZED degreasers with an air/vapor interface smaller than 2.0 square meters (21.6 square feet).

2. Except as provided under (6) (a) 1.b., c., and d., the owner or operator of a cold cleaning facility shall:

a. Equip the cleaner with a cover; and

b. Design the cover so that it can be easily operated with one hand if:

1) The solvent volatility is greater than 2.1 kilo Pascals (0.3 pounds per square inch absolute) measured at 38°C (100°F); or

2) The solvent is agitated; or

3) The solvent is heated; and

c. Equip the cleaner with a facility for draining cleaned parts, and the drainage facility shall be constructed internally so that parts are enclosed under the cover while draining if the solvent volatility is greater than 4.3 kilo Pascals (0.6 pounds per square inch absolute) measured at 38°C (100°F), except that the drainage facility may be external for applications where an internal type cannot fit into the cleaning system; and

d. Install one of the following control devices if the solvent volatility is greater than 4.3 kilo Pascals (0.6 pounds per square inch absolute) measured at 38°C (100°F), or if the solvent is heated about 49°C (120°F):

1) Freeboard that gives a freeboard ratio greater than or equal to 0.7; or

2) Water cover (solvent must be insoluble in and heavier than water); or

3) Other systems of equivalent control, such as refrigerated chiller or carbon adsorption, approved by the department; and

e. If used, supply a solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure which does not cause extensive splashing; and

f. Provide a permanent, conspicuous label, summarizing the operating requirements; and

g. Provide supervision or instruction adequate to ensure that the operation is conducted in accord with the following:

1) Close the cover whenever parts are not being handled in the cleaner; and

2) Drain the cleaned parts for at least 15 seconds or until dripping ceases; and

3) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another person in such a way as to cause greater than 15% of the waste solvent (by weight) to evaporate into the ambient air during the ozone season, par. (1) (c) notwithstanding; and

4) Repair solvent leaks immediately, or shut down the degreaser until the leaks are repaired.

3. Except as provided under (6) (a) l.b., c. and e., the owner or operator of an open top vapor degreaser shall:

a. Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone; and

b. Provide the following safety switches:

1) A condenser flow switch or other switching system which shuts off the sump heat if the condenser coolant is either not circulating or too warm; and

2) A thermostatically activated control switch which shuts off the sump heat when the vapor level rises above the upper boundary of the normal range; and

3) A spray safety switch which shuts off the spray pump if the vapor level does not stay within the normal range; and

c. Install one of the following control devices:

1) A freeboard ratio equal to or greater than 0.75, with a powered or mechanically assisted cover if the degreaser opening is greater than 1.0 square meter (10.8 square feet); or

2) Refrigerated chiller; or

3) Enclosed design (cover or door opens only when the dry part is actually entering or exiting the degreaser); or

4) Ventilation greater than or equal to 15 cubic meters per minute per square meter (50 cubic feet per minute per square foot) of air/vapor area (when cover is open), all passing through a carbon adsorption system which exhausts less than 25 parts per million of solvent averaged over one complete adsorption cycle; or

5) A control system demonstrated to have control efficiency equivalent to or greater than any of 1) through 4) above and approved by the department; and

d. Not position ventilation fans so as to disturb the degreaser's vapor zone, nor provide exhaust ventilation exceeding 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of degreaser open area during the ozone season, unless necessary to meet OSHA requirements; and

e. Keep the cover closed at all times except when processing workloads through the degreaser; and

f. Always spray below the vapor level; and

g. Minimize solvent carryout by:

- 1) Racking parts to allow complete drainage; and
- 2) Moving parts in and out of the degreaser at less than 3.3 meters per minute (11 feet per minute); and
- 3) Holding the parts in the vapor zone at least 30 seconds or until condensation ceases; and
- 4) Tipping out any pools of solvent on the cleaned parts before removal from the vapor zone; and
- 5) Allowing parts to dry within the degreaser for at least 15 seconds or until visually dry; and

h. Not degrease porous or absorbent materials, such as cloth, leather, wood or rope; and

i. Move parts out of the degreaser at less than 1.5 meters per minute (4.9 feet per minute) if the workload occupies more than 50% of the degreaser's open top area; and

j. Except where a load cannot be divided, avoid loading the degreaser to the point where the vapor level would drop more than 10 centimeters (4 inches) when the workload is placed in the vapor zone; and

k. Not operate the degreaser so as to allow water to be visually detectable in solvent exiting the water separator; and

1. Follow the requirements of (6) (a) 2.g.3) and 4); and

m. Provide a permanent, conspicuous label, summarizing the operating procedures of e. through 1., and provide supervision or instruction adequate to ensure that the procedures are followed.

4. Except as provided under (6) (a) 1.b., c. and f., the owner or operator of a conveyORIZED degreaser shall:

a. Minimize entrance and exit openings during operations so that no opening dimension exceeds the smallest physically possible by more than 20 centimeters (8 inches) or by more than 20% of the opening dimension, whichever is smaller; and

b. Provide the following safety switches:

1) A condenser flow switch or other switching system which shuts off the sump heat if the condenser coolant is either not circulating or too warm; and

2) A thermostatically activated control switch which shuts off the sump heat when the vapor level rises above the upper boundary of the normal range; and

3) A spray safety switch which shuts off the spray pump or the conveyor if the vapor level does not stay within the normal range; and

c. Install one of the following control devices:

1) Refrigerated chiller; or

2) Carbon adsorption system, with ventilation greater than or equal to 15 cubic meters per minute per square meter (50 cubic feet per minute per square foot) of air/vapor area (when downtime covers are open), and exhausting less than 25 parts per million of solvent by volume averaged over a complete adsorption cycle; or

3) A system, demonstrated to have a control efficiency equivalent to or greater than 1) or 2), and approved by the department; and

d. Provide downtime covers for closing off the entrance and exit during shutdown hours; and

e. Place downtime covers over entrances and exits of conveyorized degreasers immediately after the conveyors and exhausts are shut down and not remove them until just before start-up; and

f. Minimize carryout emissions by:

1) Using a drying tunnel, rotating (tumbling) basket or their equivalent; and

2) Racking parts for best drainage; and

3) Maintaining the vertical conveyor speed at less than 3.3 meters per minute (11 feet per minute); and

g. Follow the requirements of (6) (a) 2.g.3 and 4) and (6) (a) 3.d. and k.

(7) PETROLEUM REFINERY SOURCES. (a) Vacuum producing systems. 1. Applicability. a. Effective July*1, [August 1,] 1979, par. (7) (a) applies, subject to the provisions of sub. (9), to vacuum producing systems at petroleum refining sources.

2. The owner or operator of any vacuum producing systems at a petroleum refinery shall not permit the emission of any noncondensable volatile organic compounds from the condensers or accumulators of the system.

3. The control required by subd. (7) (a) 2. shall be achieved by:

a. Piping the noncondensable vapors to an operating firebox or incinerator; or

b. Compressing the vapors and adding them to the refinery fuel gas.

(b) Wastewater separators. 1. Applicability. a. Effective July*1, [August 1,] 1979, par. (7) (b) applies, subject to the provisions of sub. (9), to wastewater separators at petroleum refining sources.

2. The owner or operator of any wastewater (oil/water) separators at petroleum refinery shall:

a. Provide covers and seals approved by the department on all separators and forebays; and

b. Equip all openings in covers, separators, and forebays with lids or seals such that the lids or seals are in the closed position at all times except when in actual use.

(c) Process unit turnarounds. 1. Applicability. a. Effective July*1, [August 1,] 1979, par. (7) (c) applies to process unit turnarounds at petroleum refining sources.

2. Notwithstanding sub. (9), before October***1, [November 1,] 1979 the owner or operator of a petroleum refinery shall develop and submit to the department for approval a detailed procedure for minimizing volatile organic compound emissions during process unit turnaround. As a minimum, the procedure shall provide for:

a. Depressurization venting of the process unit or vessel to a flare, firebox or vapor recovery system which prevents release to the ambient air of at least 90% by weight of the volatile organic compounds vented; and

b. No emission of volatile organic compounds from a process unit or vessel until its internal pressure is 136 kilo Pascals (19.7 pounds per square inch absolute) or less; and

c. Recordkeeping of the following items during the ozone season:

1) Every date that each process unit or vessel is shut down; and

2) The approximate total quantity of volatile organic compounds emitted and the duration of the emission.

(8) OTHER DIRECT SOURCES. (a) Process lines emitting photochemically reactive organic substances. 1. Applicability. a. Par. (8) (a) applies to all process lines in the Southeastern Wisconsin Intrastate AQCR which emit photochemically reactive organic compounds, solvents or mixtures, and to all such process lines throughout the state on which construction or modification was commenced after April 1, 1972. Where a provision elsewhere in this section also applies, the requirement which results in emission of the smallest quantity of volatile organic compounds shall be met.

2. Any process line, except enclosed paint spray booths and volatile organic compound water separation systems, which emits more than 6.8 kilograms (15 pounds) per day or 1.4 kilograms (3 pounds) per hour of a reactive organic compound, solvent or mixture shall control these emissions by at least 85%.

3. Any enclosed paint spraying operation which emits more than 13.6 kilograms (30 pounds) per day or 2.8 kilograms (6 pounds) per hour of a reactive organic compound, solvent or mixture shall control these emissions by at least 85%.

4. Any volatile reactive organic compound - water separation system that processes over 757 liters (200 gallons) per day shall control the emission of volatile organic substances by at least 85%.

(9) COMPLIANCE SCHEDULES. (a) Paragraphs (9) (b) through (9) (g) do not apply to sources which are in compliance with this section before July*1, [August 1,] 1979 and have determined and certified compliance to the satisfaction of the department on or before September**1, [October 1,] 1979.

(b) Process and emission control equipment installations. 1. Except as provided under par. (9) (e) and sub. (10), the owner or operator of a volatile organic compound emission source proposing to install and operate volatile organic compound emission control equipment or replacement process equipment to comply with the emission limiting requirements of this section shall not exceed the deadlines specified for the following increments of progress:

a. Final plans for the emission control system and/or process equipment shall be submitted on or before January 1, 1980.

b. Contracts for the emission control systems and/or process equipment shall be awarded or orders shall be issued for purchase of component parts to accomplish emission control on or before April 1, 1980.

c. Initiation of on-site construction or installation of the emission control and/or process equipment shall begin on or before September 1, 1980.

d. On-site construction or installation of the emission control and/or process equipment shall be completed on or before September 1, 1981.

e. Final compliance shall be achieved on or before October 1, 1981.

2. Any owner or operator of a source subject to the compliance schedule of subd. (9) (b) 1. shall certify to the department, within 7 days after the deadline for each increment of progress, whether the required increment of progress has been met.

(c) Low solvent content coating. 1. Except as provided under subds. (9) (c) 2. and 3., par. (9) (e) and sub. (10), the owner or operator of a volatile organic compound source proposing to employ low solvent content coating technology to comply with the requirements of this section shall not exceed the deadlines specified for the following increments of progress:

a. Final plans for the application of low solvent content coating technology shall be submitted on or before January 1, 1980.

b. Research and development of low solvent content coating shall be completed on or before October 1, 1980.

c. Evaluation of product quality and commercial acceptance shall be completed on or before February 1, 1981.

d. Purchase orders shall be issued for low solvent content coatings and process modifications on or before March 1, 1981.

e. Initiation of process modifications shall begin on or before May 1, 1981.

f. Process modifications shall be completed and use of low solvent content coatings shall begin on or before November 1, 1981.

g. Final compliance shall be achieved on or before December 1, 1981.

2. The owner or operator of a can coating or flexible packaging facility proposing to employ low solvent content coating technology to comply with the requirements of (4) (c) 2.d. or (4) (e) 2. may exceed each of the deadlines in (9) (c) 1.b. through g. by 12 months in developing acceptable can end sealing compounds or coatings for hydrophobic flexible packaging substrates.

3. Where the department determines that low solvent content coating technology has been sufficiently researched and developed for a particular application, the owner or operator of a volatile organic compound source proposing to comply with the requirements of this section through application of low solvent content coatings shall not exceed the deadlines specified for the following increments of progress:

a. Final plans for the application of low solvent content coating technology shall be submitted on or before January 1, 1980.

b. Evaluation of product quality and commercial acceptance shall be completed on or before July 1, 1980.

c. Purchase orders shall be issued for low solvent content coatings and process modifications on or before September 1, 1980.

d. Initiation of process modifications shall begin on or before November 1, 1980.

e. Process modifications shall be completed and use of low solvent content coatings shall begin on or before April 1, 1981.

f. Final compliance shall be achieved on or before May 1, 1981.

4. Any owner or operator of a stationary source subject to one of the compliance schedules in par. (9) (c) shall certify to the department, within 7 days after the deadline for each increment of progress, whether the required increment of progress has been met.

(d) Equipment modification. 1. Except as provided under par. (9) (e) and sub. (10), the owner or operator of a volatile organic compound source proposing to comply with the requirements of this section by modification of existing processing equipment shall not exceed the deadlines specified for the following increments of progress:

a. Final plans for process modification shall be submitted on or before January 1, 1980.

b. Contracts for process modifications shall be awarded or orders shall be issued for the purchase of component parts to accomplish process modifications on or before March 1, 1980.

c. Initiation of on-site construction or installations of process modifications shall begin on or before June 1, 1980.

d. On-site construction of installation of process modifications shall be completed on or before December 1, 1980.

e. Final compliance shall be achieved on or before April 1, 1981.

2. Any owner or operator of a source subject to the compliance schedule of subd. (9) (d) 1. shall certify to the department, within 7 days after the deadline for each increment of progress, whether the required increment of progress has been met.

(e) Alternate compliance schedules. 1. Notwithstanding the deadlines specified in pars. (9) (b) through (9) (d), for any particular source the department may issue or approve a separate compliance schedule with earlier deadlines, if it finds that such a schedule would be feasible, or with later deadlines if it finds that those specified in pars. (9) (b) through (9) (d) would not be feasible. The alternate compliance schedule may be proposed by the owner or operator of a volatile organic compound source. If the alternate compliance schedule provides later deadlines, the following conditions shall be met:

a. A request for an alternate compliance schedule shall be received by the department on or before September**1, [October 1,] 1979.

b. Final control plans for achieving compliance with the requirements of this section shall be submitted on or before January 1, 1980.

c. The alternative compliance schedule shall include the same increments of progress as the schedule it is to replace.

d. Sufficient documentation and certification from appropriate suppliers, contractors, manufacturers, or fabricators shall be submitted by the owner or operator to justify the new deadlines proposed for the increments of progress.

2. All alternate compliance schedules proposed or promulgated under par. (9) (e) shall provide for compliance of the source with the requirements of subs. (2) through (7) as expeditiously as practicable but not later than December 31, 1982 or, where the owner or operator proposes to comply through development of a new surface coating which is subject to approval by a federal agency, not later than December 31, 1985.

3. Any schedule approved under par. (9) (e) may be revoked at any time if the source does not meet the deadlines specified for the increments of progress. Upon any such revocation the applicable schedule under pars. (9) (b) to (9) (d) shall be in effect.

(f) Phased emission reduction schedules. 1. Except as provided under sub. (10), the owner or operator of a source required to undertake a phased compliance program shall not exceed the following deadlines:

a. Plans for the program of phased compliance shall be submitted on or before August 1, 1980.

b. The compliance plan shall specify increments of progress with such deadlines as necessary to meet interim compliance dates specified in the applicable rule.

c. Final compliance shall be on or before the date specified in the applicable rule or approved compliance plan, but not later than December 31, 1987.

(g) Final compliance plans. 1. If the department finds any compliance plan submitted under sub. (9) to be unsatisfactory, it may require that the plan be resubmitted with appropriate revisions.

2. Where a source is subject to requirements of this section in effect prior to July*1, [August 1,] 1979, the source shall continue to comply with such requirements during the interim period prior to the final compliance date in the applicable compliance schedule.

3. Where a source is not subject to requirements of this section in effect prior to July*1, [August 1,] 1979, the final compliance plan shall specify reasonable measures to minimize emissions of volatile organic compounds during the interim period prior to the final compliance date.

(10) EXCEPTIONS AND DEFERRALS. (a) Exceptions for certain organic compounds. For sources on which construction or modification is commenced on or before July*1, [August 1,] 1979, the provisions of subs. (2) (b), (3) (d) and (8) (a) shall not apply to the use or application of insecticides, pesticides, herbicides, saturated halogenated hydrocarbons, perchloroethylene or acetone. In addition, none of the provisions of this section shall apply to the use or emission of trichlorotrifluoroethane (freon 113), ethane or methane.

(b) Internal offsets. 1. On or before December 31, 1987, no owner or operator of any surface coating facility shall cause or allow the emission of volatile organic compounds from any coating line to exceed the limitations contained in this section unless:

a. Each coating line which is involved in the internal offset is operating with an emission rate of volatile organic compounds less than or equal to the special emission rate for the coating line (which may be a weighted daily average) contained in a compliance plan approved under this paragraph;

b. The construction or modification of the coating line was commenced on or before July*1, [August 1,] 1979; and

c. The combined emission rate from all coating lines involved in the internal offset is less than or equal to an emission rate determined by the following equation: $E = A_1 \times B_1 + A_2 \times B_2 + \dots + A_n \times B_n$, where E = the total allowable emission rate from all of the coating lines involved in the internal offset in kilograms per hour (pounds per hour), $A_{1,2,\dots,n}$ = the allowable emission rate for each coating line pursuant to sub. (4) in kilograms per liter (pounds per gallon) of coating, excluding water, delivered to the coating applicator, and $B_{1,2,\dots,n}$ = the amount of coating material in liters per hour (gallons per hour), excluding water, delivered to the coating applicator; and

d. The owner or operator has certified, and the department has confirmed, that the emissions of all air contaminants from all existing sources owned or controlled by the owner or operator in the state are in compliance with or under a schedule for compliance as expeditiously as practicable with, all applicable local, state and federal laws and regulations.

2. The provisions of subd. 1. apply to a surface coating facility only after the department has approved a compliance plan which specifies an emission rate for each of the coating lines involved in the internal offset. If, at any time, the department determines that one of these emission rates is being exceeded, approval of the compliance plan may be revoked and subd. 1. shall no longer apply to the facility.

3. The compliance plan required under subd. 2. shall include a compliance schedule consistent with sub. (9). Notwithstanding subd. (9) (e) 2., the internal offset provided for in the compliance plan may remain in effect until December 31, 1987. After December 31, 1987, no owner or operator of any coating line shall cause or allow the emission of volatile organic material from the coating line to exceed any limitation contained in sub. (4).

(c) Compliance schedule delays. Notwithstanding any compliance schedule approved or issued under sub. (9), the department may approve a new compliance schedule which provides additional time for completion of an increment of progress, provided:

1. That the owner or operator of the source is able to document to the department's satisfaction that the source is unable to meet the applicable deadline under sub. (9) for said increment of progress due to circumstances beyond the owner or operator's control which could not reasonably have been avoided by using all prudent planning; and

2. That the additional time allowed for the said increment of progress does not exceed that originally allotted under sub. (9); and

3. That the final compliance date is not later than December 31, 1982, except as provided in (9) (f) l.c. or subd. (10) (b) 3.

(d) Limitation of restrictions to the ozone season. Where the requirements of this section are met by means of a fossil-fuel fired incinerator, use of the incinerator shall be required only during the ozone season, provided that operation of the incinerator is not required for purposes of occupational health or safety or for the control of toxic or hazardous substances, malodors, or other pollutants regulated by other sections of this chapter.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; r. and recr., Register, June, 1975, No. 234, eff. 7-1-75; am. Register, July, 1979, No. 283, eff. 8-1-79.

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.

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NR 154.15 Control of nitrogen compound emissions. (1) **GENERAL LIMITATIONS.** No person shall cause, suffer, allow, or permit nitrogen oxides or nitrogen compounds to be emitted to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution.

(2) **NITROGEN OXIDES LIMITATIONS.** No person shall cause, suffer, allow, or permit nitrogen oxides (expressed as NO₂) to be emitted to the ambient air in amounts greater than:

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

1. Firing of gaseous fossil fuel: 0.20 pounds of NO₂ per million BTU input.

2. Firing of liquid fossil fuel: 0.30 pounds of NO₂ per million BTU input.

3. Firing of solid fossil fuel: 0.70 pounds of NO₂ per million BTU input.

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

(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, 1976, No. 234, eff. 7-1-76.

NR 154.17 Control of motor vehicles, internal combustion engines, and mobile sources. (1) **GENERAL LIMITATIONS.** No person shall

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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).

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