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

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

(66) "Emission point" means any individual opening at a fixed location through which air contaminants are emitted.

(66m) "Emissions unit" means any part of a stationary source which emits or is capable of emitting any air contaminant.

(67) "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.

(68) "End sealing compound" means a synthetic rubber compound which is coated onto can ends and which functions as a gasket when the end is assembled on the can.

(68m) "Energy intensive control device" means an air pollution control device or system which consumes energy at a rate in excess of what would be required to heat the exhaust gas stream from 70°F to 800°F, taking into account energy recovered in the form of heat or organic compounds.

(69) "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.

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

(71) "Exterior base coating" means 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.

(72) "Extreme performance coatings" means coatings designed for harsh exposure or exposure to one or more of the following: the weather all of the time, temperatures consistently above 95°C, detergents, abrasive and scouring agents, solvents, corrosive atmospheres, or similar environmental conditions.

(73) "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.

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

(75) "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.

(75m) "Fixed capital cost" means the capital needed to provide all of the depreciable components.

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

(77) "Flexographic printing" means the application of words, designs or pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.

(78) "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.

(79) "Forebays" means the primary sections of a wastewater separator.

(80) "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.

(81) "Freeboard ratio" means the freeboard height divided by the internal width of the degreaser tank.

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

(83) "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, or any gaseous mixture of such gas and natural gas which is combusted.

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

(85) "Fugitive emission" means an emission from any emission point within a facility other than a flue or stack.

(86) "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.

(87) "Gasoline" means any petroleum distillate having a Reid vapor pressure of 27.6 kPa (4 psia) or greater.

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

(89) "Gas service" means petroleum refinery equipment which processes, transfers or contains a VOC or mixture of VOCs in the gaseous phase.

(90) "Green tires" means assembled tires before molding and curing have occurred.

(91) "Green tire spraying" means the spraying of green tires, both inside and outside, with release compounds which help remove air from the

tire during molding and prevent the tire from sticking to the mold after curing.

(92) "Hardboard" means a panel manufactured primarily from interfelted ligno-cellulosic fibers which are consolidated under heat and pressure in a hot press.

(206) "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.

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

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

(209) "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, clarifer, etc., which removes petroleum derived compounds from wastewater.

(210) "Water based sprays" means release compounds, sprayed on the inside and outside of green tires, in which solids, water, and emulsifiers have been substituted for all organic solvents.

(211) "Waxy, heavy pour crude petroleum" means a crude petroleum with a pour point of 10°C (50°F) or higher as determined by the ASTM standard D97-66, "Test For Pour Point of Petroleum Oils."

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; am. Register, March, 1981, No. 303, eff. 4-1-81; cr. (118m) and (193m), Register, March, 1982, No. 315, eff. 4-1-82; cr. (94m), (118n), (159m) and (165m), Register, October, 1982, No. 322, eff. 11-1-82; cr. (intro.), (13m), (27m), (66m), (75m), (106m), (118s), (162m), (164g) and (164m), r. and recr. (118), Register, April, 1983, No. 328, eff. 5-1-83; cr. (68m), Register, July, 1983, No. 331, eff. 8-1-83.

NR 154.02 Applicability, delayed compliance, variances. (1) APPLICABILITY. 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) DELAYED COMPLIANCE ORDERS. The department may, by order issued under s. 144.35 (1) (b), [144.423 (1) (b)] Stats., authorize a source not in compliance with an emission limitation prescribed in this chapter to achieve compliance as expeditiously as practicable but not later than 3 years after such requirement became applicable. The department shall hold a public hearing in accordance with its rules prior to authorizing any period of delayed compliance which exceeds 30 days in duration. No such order shall be issued unless:

(a) The cause of the violation was a malfunction, equipment failure, act of God, or some other condition beyond the entity's control, when using all prudent planning;

(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;

(d) If the violation was caused by a malfunction or equipment failure, any plan required to be prepared by s. NR 154.06 (9) was complied with;

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

(f) The conditions listed in s. NR 154.09 (1), if applicable, are met;

(g) The order contains:

1. An express provision whereby the order recipient consents to its issuance;

2. A requirement that the order recipient employ reasonable emission monitoring techniques to assess compliance with any interim requirements imposed by the order;

3. A requirement for submittal of reports showing whether any interim requirements, increments of progress, and final compliance have been achieved;

4. A provision prohibiting the reduction of employe wages where supplemental, intermittent or other dispersion-dependent control methods are to be used;

5. In the case of a major stationary source, a notice that it may be required to pay administrative noncompliance penalties for failure to comply with the order and that no order issued under this subsection shall be effective until it is approved by the administrator of the U.S. environmental protection agency or designee.

(h) All reasonably available alternative operating procedures and interim control measures to minimize emissions shall be utilized by the air contaminant source during the period of delayed compliance.

(3) RACT VARIANCES. (a) The department may grant source-specific revisions to the state implementation plan setting alternate compliance schedules or alternate emission limitations, or both, where compliance with general RACT requirements of this chapter are shown to be technologically or economically infeasible, provided that:

1. The revision will not delay attainment or prevent maintenance of any ambient air quality standard, as determined by methods acceptable to the department.

2. Construction or modification of the air contaminant source for which a revision is requested was commenced on or before October 1, 1979.

3. The owner or operator of the air contaminant source for which a revision is requested demonstrates that all direct or portable sources owned or operated in the state by such person are in compliance with all applicable requirements of this chapter or are on a schedule for compliance with such requirements.

4. The owner or operator submits to the department information concerning the conditions or special circumstances which demonstrates, to the department's satisfaction, that the applicable general RACT re-

2. Equipment designed to incinerate solid wastes, which are not pathological wastes and are not hazardous wastes under ch. NR 181, at a rate of not more than 500 pounds per hour.

3. Equipment designed to dry grain at a rate of not more than 1,500 bushels per hour at 5% moisture extraction.

4. Portland concrete batching plants which are not major sources.

5. Storage tanks of petroleum liquid or nonvolatile organic compounds with a maximum capacity of not more than 40,000 gallons of petroleum liquid or of organic compounds which are not VOCs.

6. VOC storage tanks with a maximum capacity of not more than 10,000 gallons of volatile organic compounds.

7. Painting or coating operations, including associated cleaning operations, which use or will use not more than 250 total gallons of paint, coatings and solvents per month or which emit or will emit not more than 1666 pounds of volatile organic compounds per month, without considering pollution control equipment.

8. Graphic arts operations, including associated cleaning operations, which use or will use not more than 250 total gallons of coatings, inks and solvents per month or which emit or will emit not more than 1666 pounds of organic compounds per month, without considering pollution control equipment.

9. Research and testing. a. Equipment used or to be used for the purpose of testing or research provided:

1) A complete application for exemption is made describing the proposed testing or research and including an operating schedule and the types and quantities of emissions anticipated; and

2) The department determines that the equipment to be used and the anticipated emissions from the testing or research will not present a significant hazard to public health, safety or welfare or to the environment and approves the application for exemption.

b. The department shall approve or deny the application in writing within 45 days of receiving a complete application for exemption under this subdivision. The department may provide public notice of an application for research and testing exemption, may provide an opportunity for public comment and an opportunity to request a public hearing and may hold a public hearing on any application under this subdivision. The department shall make all nonconfidential information available to the public upon request.

10. A laboratory which emits organic compounds, sulfur dioxide, carbon monoxide, nitrogen oxides or particulate matter or a combination thereof at a rate of less than 5.7 pounds per hour. Emissions shall be determined, without considering pollution control equipment, by dividing the total emissions during a calendar month by the total hours of operation of the laboratory during that calendar month. A laboratory is in operation if laboratory apparatus or equipment is in use.

11. Equipment whose primary purpose is to transport or sort paper.

12. Water chlorination facilities.

13. An indirect source located in a standard metropolitan statistical area (SMSA) which meets one of the following criteria:

a. Any new parking facility, or other new indirect source, except a highway or airport, with an associated parking area, which has a parking capacity of not more than 1,000 cars.

b. Any modified parking facility or any modification of an associated parking area which increases parking capacity by not more than 500 cars.

c. Any new highway project with an anticipated annual peak hour traffic volume of not more than 1,200 vehicles per hour within 10 years of construction.

d. Any highway modification project which will increase the annual peak hour traffic volume by not more than 1,200 vehicles per hour within 10 years after modification.

14. An indirect source located outside all SMSA's which meets one of the following criteria:

a. Any new parking facility or other new indirect source, except a highway or airport, with an associated parking area which has a parking capacity of not more than 1,500 cars.

b. Any modified parking facility or any modification of an associated parking area which increases parking capacity by not more than 750 cars.

c. Any new highway project which will carry not more than 3 lanes of traffic and which has an anticipated annual peak hour traffic volume of not more than 1,800 vehicles per hour within 10 years of construction.

d. Any highway modification project which will create not more than one additional lane of traffic and which will increase the annual peak hour traffic volume by not more than 1,800 vehicles per hour within 10 years after modification.

15. An airport whose construction or general modification program is expected to result in the following activity within 10 years after construction or modification:

a. New airport: Not more than 50,000 operations per year by regularly scheduled certificated air carriers and use by not more than 1,000,000 passengers per year.

b. Modified airport: Increase of not more than 50,000 operations per year by regularly scheduled certificated air carriers over the the existing volume of operations and an increase of not more than 1,000,000 passengers per year.

(b) *General category of exempt sources.* In addition to the specific categories of exempt sources identified in par. (a), no construction or modification and new operation permit is required prior to commencing construction, reconstruction, replacement, relocation or modification and operation of a source if:

1. The construction, reconstruction, replacement, relocation or modification and operation of the source is not prohibited by any permit, plan approval or special order applicable to the source;

2. The source will not emit sulfur dioxide, carbon monoxide or nitrogen oxides at a rate of more than 9 pounds per hour for each pollutant emitted, without considering pollution control equipment;

3. The source will not emit particulate matter or organic compounds at a rate of more than 5.7 pounds per hour for each pollutant emitted, without considering pollution control equipment;

4. The source will not emit any of the following air contaminants at a rate greater than the applicable emission rate listed:

a. Fluorides, 3 tons per year;

b. Hydrogen sulfide, 10 tons per year;

c. Reduced sulfur compounds, 10 tons per year;

d. Total reduced sulfur, 10 tons per year;

e. Vinyl chloride, 1 ton per year.

5. The source will not emit asbestos, antimony, barium, beryllium, bromine, cadmium, chlorine, chromic acid, chromates, chromium, cobalt fume or dust, copper fume or dust, cyanides, fluorine, hydrogen chloride, hydrogen fluoride, iron (water soluble salts), lead, manganese, mercury, molybdenum, nickel carbonyl, nickel, nitric acid including anhydrides, phosphoric acid including anhydrides, phosphorus (yellow), platinum (water soluble salts), selenium, sulfuric acid, thallium (water soluble compounds), tin, uranium, vanadium, pesticides, their mixtures, or their compounds or any other pollutant not listed in subd. 2., 3., 4., or this subdivision which is subject to regulation under the federal clean air act as of May 1, 1983;

6. The source will not emit any air contaminant not mentioned in subd. 2., 3., 4., or 5., at a rate of more than 6 pounds per hour for each pollutant emitted, without considering pollution control equipment; and

7. The source is not required to obtain a permit because of incremental growth as determined under sub. (6) (c).

(c) *Exempt modifications of existing sources.* In addition to the exempt modifications listed in s. 144.391 (4), Stats., no construction or modification and new operation permit is required prior to commencing modification of a source which is modified by the addition of a new emissions unit or by any other modification if:

1. The modification is not prohibited by any permit, plan approval or special order applicable to the source;

2. The modification is exempt under par. (a) or the emissions from the modification do not exceed the exemption levels set forth in par. (b) 2., 3., 4., 5., and 6.; and

3. The source is not required to obtain a permit because of incremental growth as determined under sub. (6) (c).

(3) EXEMPT MODIFICATIONS. (a) *Use of alternate fuel or raw material.* In addition to the exempt modifications listed in s. 144.391 (4), Stats., no construction or modification and new operation permit is required for a source to use an alternate fuel or raw material which the source is designed to burn or use if:

1. The source has continuously had such design capability as a result of construction or modification which commenced before April 1, 1972; and

2. Such use will not cause or exacerbate the violation of an ambient air quality standard or an ambient air increment; and

3. Such use is not prohibited by any permit, plan approval or special order applicable to the source.

(b) *VOC RACT compliance.* No construction or modification and new operation permit is required for the modification of a source which is made primarily for the purpose of complying with the requirements of a RACT compliance plan approved under s. NR 154.13, or a VOC RACT variance approved under s. NR 154.02 (3), if the modification does not cause or exacerbate the violation of an ambient air quality standard or ambient air increment for any air contaminant other than ozone.

(c) *Resumption of operation.* No construction or modification and new operation permit is required for the resumption of operation of a source after a period of closure if the source was never included and never required to be included in the source inventory as an existing source covered by plans under s. 144.31 (1) (f), Stats., and the resumption of operation of the source will not cause or exacerbate the violation of an ambient air quality standard or an ambient air increment and will not result in the emission of a new air contaminant and the resumption of operation is not prohibited by any permit, plan approval or special order applicable to the source.

(d) *Municipal waste fuel.* No construction or modification and new operation permit is required for the modification of a steam-generating unit to use an alternate fuel, whether or not the unit has the design capability to use the alternate fuel, to the extent that the alternate fuel is generated from municipal garbage and refuse which has undergone a separation process to minimize noncombustible materials, if the department publishes a written determination under this paragraph that:

1. Such use will not cause or exacerbate the violation of an ambient air quality standard or ambient air increment; and

2. Any emissions of hazardous air contaminants resulting from such use will not present a significant hazard to public health, safety or welfare or to the environment.

(4) EXEMPT RELOCATIONS. (a) In addition to the approved relocated sources which are exempt from the need for an additional permit under s. 144.391 (5), Stats., and the relocation of an emissions unit within the contiguous property of an attainment area major source, no construction or modification and new operation permit is required for the relocation of an emissions unit within the contiguous property of a minor source or a nonattainment area major source if:

1. The relocation of the emissions unit is not prohibited by any permit, plan approval or special order applicable to the source;

2. The emissions unit will not be modified;

3. The emissions unit meets all applicable emission limitations; and

4. The emissions unit's stack height or stack gas exit velocity or temperature will not be decreased.

(b) If the criteria in par. (a) 1., 2., and 3. are met but the emissions unit's stack height or stack gas exit velocity or temperature will be decreased, no construction or modification and new operation permit is required for the relocation of the emissions unit if the allowable emissions from the source will not cause or exacerbate the violation of an ambient air quality standard or ambient air increment.

(5) EXEMPT REPLACEMENTS. No construction or modification and new operation permit is required for the replacement of a source if:

(a) The replacement is for only a portion of a basic emissions unit;

(b) Such replacement is not prohibited by any permit, plan approval or special order applicable to the source; and

(c) The essential components of the basic emissions unit are not replaced through several partial replacements within a 12-month period.

(6) SCOPE OF EXEMPTION. (a) Exemption or the granting of an exemption under this section from the requirement to obtain a permit does not relieve any person from compliance with the emission limitations of this chapter, the air quality requirements of ch. NR 155, the reporting requirements of ch. NR 101, or with any other provision of law.

(b) If a source undergoes a modification which is exempt from the requirement to obtain a construction or modification and new operation permit under sub. (3) or s. 144.391 (4), Stats., it will not for this reason be treated as a modified source for purposes of the emission limitations under this chapter.

(c) Subsequent to May 1, 1983, if a person constructs or modifies a stationary source in increments which individually are exempt from the requirements for a permit under this section, the person is required to obtain a construction or modification and new operation permit for the source prior to commencing construction or modification of the increment which in combination with the other increments occurring since July 1, 1975 or since the date of the last construction or modification and new operation permit or plan approval issued to the stationary source, whichever is later, will:

1. Emit sulfur dioxide, carbon monoxide or nitrogen oxides at a rate of more than 9 pounds per hour for each pollutant emitted, without considering pollution control equipment;

2. Emit particulate matter or organic compounds at a rate of more than 5.7 pounds per hour for each pollutant emitted, without considering pollution control equipment; or

3. Emit any of the following air contaminants at a rate greater than the applicable emission rate listed:

a. Fluorides, 3 tons per year;

b. Hydrogen sulfide, 10 tons per year;

c. Reduced sulfur compounds, 10 tons per year;

d. Total reduced sulfur, 10 tons per year;

e. Vinyl chloride, 1 ton per year.

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; r. and recr. Register, June, 1975, No. 234, eff. 7-1-75; am. (1), renum. (2) and (3) to be (3) and (4) and am., cr. (2), Register, April, 1977, No. 256, eff. 5-1-77; r. and recr. Register, April, 1983, No. 328, eff. 5-1-83; reprinted to correct error in (2) (a) 8. , Register, July, 1983, No. 331.

NR 154.05 Action on applications. (1) Within 30 days after receipt of 2 copies of the plans, specifications and other information provided pursuant to s. 144.39 (1), Stats., needed to allow the department to analyze whether or not the source is in compliance with appropriate air pollution statutes and rules, or within 30 days after receipt of a notice of intent for construction of a source which does not require submittal of plans, specifications or other information, the department shall:

(a) Make a preliminary determination of whether the source should be approved, approved with conditions in accordance with sub. (9) or (10) of this section, or disapproved.

(b) Make available in at least one location in each region in which the source would be constructed a copy of all nonconfidential materials submitted by the owner or operator, a copy of the department's analysis and preliminary determination, and a copy or summary of other materials, if any, considered by the department in making its preliminary determination.

(c) Notify the applicants, interested members of the public, and appropriate federal, local and state officials of the proposed project, of the department's preliminary determination, and of the opportunity for public comment.

(d) Place a notice in a newspaper of general circulation in each region in which the source would be constructed, of the opportunity for written public comment on the information submitted by the owner or operator and the department's preliminary determination on the approvability of the source.

(2) Public comments submitted in writing within 30 days after the date of said public notice shall be considered by the department in making its final decision on the application. The applicant may submit a written response to any comments submitted by the public no later than 10 days after the close of the public comment period. The department shall consider the applicant's response in making its final decision. All comments shall be made available for public inspection in at least one location in the region in which the source would be located.

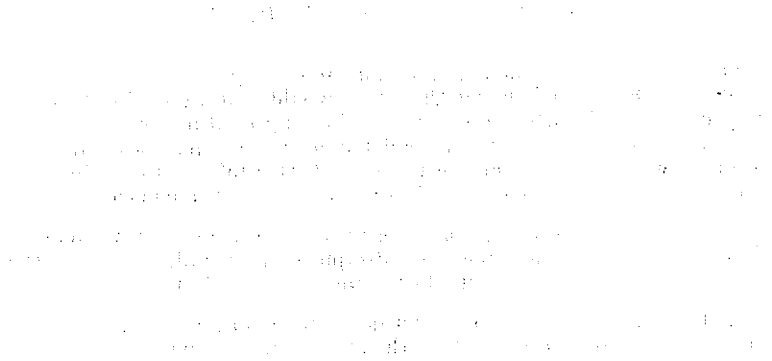
(3) (a) The department shall take final action on the source after the close of the public comment period and after reviewing any response the applicant wishes to make to public comments. The department shall, by order, notify the owner or operator of the source in writing of its approval, conditional approval or disapproval of the proposed source. Said order must be issued within 30 days of the close of this public comment

period and shall be made available for public inspection in at least one location in the region in which the source would be located. Construction may proceed only after an order granting approval or conditional approval has been received from the department and must proceed in accordance with the plans, specifications, and other information submitted and in accordance with any conditions imposed by the department.

(b) Notwithstanding any other provision appearing in this chapter, the department may not approve or disapprove any application until the department has discharged its duties under s. 1.11, Stats.

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

Next page is numbered 605



2) The seal or seals are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and

3) For vapor mounted seals, the accumulated area of gaps exceeding 0.32 cm (1/8 in.) in width between the secondary seal and tank wall shall not exceed 21.2 cm^2 per meter (1.00 $in.^2$ per foot) of tank diameter; and

c. All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are:

1) Equipped with covers, seals, or lids kept in the closed position except when in actual use; and

2) Equipped with projections into the tank which remain below the liquid surface at all times; and

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

e. Rim vents are set to open only when the roof is being floated off the leg supports or at the manufacturer's recommended setting; and

f. Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90% of the area of the opening; and

g. Routine visual inspections are conducted of all seals and seal closure devices at monthly intervals during the ozone season; and

h. The secondary seal gap of vapor-mounted seals is measured annually, in a manner approved by the department; and

i. Records are maintained and retained for a minimum of 2 years that shall include:

1) The results of inspections conducted under subpars. g. and h.; and

2) The information required under subd. 3.a. and b. (intro).

7. Additional monitoring. The owner or operator of a pertroleum liquid storage vessel with an external floating roof not covered under subd. 6. but containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia), shall maintain and retain for at least 2 years records of the average monthly storage temperature, the type of liquid, throughput quantities and the maximum true vapor pressure for all pertroleum liquids with a true vapor pressure greater than 7.0 kPa (1.0 psia).

(b) *Storage of VOCs at pharmaceutical manufacturing facilities.* 1. Applicability. Effective April 1, 1981, subd. 2. applies, subject to the provisions of sub. (12), to all storage vessels for VOCs of more than 3,785 liter (1,000 gallon) capacity at synthetic pharmaceutical manufacturing facilities.

2. Storage requirements. The owner or operator of any storage vessel shall install pressure-vacuum conservation vents set at $\pm$0.2 kPa, or an equally effective control device approved by the department, on all storage vessels that store VOCs with vapor pressures in excess of 10.5 kPa (1.52 psia) at 21°C (70°F).

(c) *Storage of any organic compound.* 1. Applicability. a. Subd. 2. applies to all storage tanks for organic compounds 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 commenced after April 1, 1972, with the following exceptions:

1) Tanks storing organic compounds that are not photochemically reactive on which construction or modification commenced before August 1, 1979.

2) Tanks used exclusively for storing organic compounds exempted under sub. (13) (a).

b. Where a provision of par. (a) also applies, the more stringent requirement shall be met.

2. Storage requirements. When storing organic compounds, solvents or mixtures having a vapor pressure greater than 10.5 kPa (1.52 psia) 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 AND ASSOCIATED EQUIPMENT.(a) *Bulk gasoline terminals.* 1. Applicability. a. Effective August 1, 1979, subds. 2., 3., and 6. apply, subject to the provisions of sub. (12), to all bulk gasoline terminals and the associated equipment necessary to load tank truck or trailer compartments.

b. Effective April 1, 1981, subds. 4., 5. and 7. apply subject to the provisions of sub. (12), to all bulk gasoline terminals and the associated equipment necessary to load tank truck or trailer compartments, except that compliance with subd. 7. is required by the deadline stated therein.

2. Vapor control system. 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. Emission limitation. The vapor control system required under subd. 2.a. shall not allow mass emissions of VOCs from control equipment to exceed 80 milligrams per liter (4.7 grains per gallon) of gasoline loaded.

4. Operating requirements. The vapor collection system and the gasoline loading equipment shall be designed and operated in a manner that prevents:

a. Gauge pressure from exceeding 4.5 kPa (18 inches of H_2O) and vacuum from exceeding 1.5 kPa (6 inches of H_2O) in the gasoline tank truck;

b. A reading equal to or greater than 100% of the LEL at 2.5 centimenters from all points on the perimeter of a potential leak source;

c. Avoidable visible liquid leaks during loading or unloading operations.

5. Repair deadline. Provisions shall be made to repair and retest a vapor collection or control system that exceeds the limits of subd. 4.b. within 15 days.

6. Precautions. Sources to which this paragraph applies shall not:

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

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

7. Truck sticker. After October 1, 1981, no person may load gasoline into any tank truck or trailer from any bulk gasoline terminal unless the tank truck displays a current sticker demonstrating that the truck is in compliance with par. (d).

(b) *Bulk gasoline plants.* 1. Applicability. a. Effective August 1, 1979, subds. 2., 3.a. and b., 4., 5. and 8. apply, subject to the provisions of sub. (12), 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 s. 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. (c) by par. (c) 1.a.2), 4), 5), 6) or 7). However, this paragraph does apply if gasoline is transferred during the ozone season to a delivery vessel whose last previous delivery was to a gasoline dispens-

ing facility (either inside or outside of Wisconsin) which is required to have a vapor balance system.

b. Effective April 1, 1981, subds. 3.c., 6. and 7. apply, subject to the provisions of sub. (12), to all vapor collection systems and all gasoline loading equipment required under subd. 1.a., except that compliance with subd. 3.c. is required by the deadline stated therein.

2. Equipment requirements for bulk plants. 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. 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. Equipment requirements for delivery vessels. No owner or operator of a bulk gasoline plant or delivery vessel shall permit the gasoline transfer operations regulated under this paragraph unless each delivery vessel involved in such operations is equipped with a vapor balance system as described under subd. 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, and

c. After October 1, 1981, the tank truck displays a current sticker demonstrating that the truck is in compliance with par. (d).

4. Transfer requirements. 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 kPa (0.7 psig), or the highest possible pressure consistent with state or local fire codes or the national fire prevention association guidelines.

5. Vapor balance system. Vapor balance systems required under subds. 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. 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. Operating requirements. The vapor collection system and the gasoline loading equipment shall be designed and operated in a manner that prevents:

a. Gauge pressure from exceeding 4.5 kPa (18 inches of H_2O) and vacuum from exceeding 1.5 kPa (6 inches of H_2O) in the gasoline tank truck;

b. A reading equal to or greater than 100% of the LEL at 2.5 centimeters from all points on the perimeter of a potential leak source;

c. Avoidable visible liquid leaks during loading or unloading operations.

7. Repair deadline. Provisions shall be made to repair and retest a vapor collection or control system that exceeds the limits of subd. 6.b. within 15 days.

8. Precautions. Notwithstanding sub. (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 August 1,1979, subds. 2.a. and b., 3., 5., 6., 7.a. and b., 8. and 9. apply, subject to the provisions of sub. (12), 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. (b) by par. (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 6) 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 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 August 1, 1979.

b. Effective April 1, 1981, subds. 2.c., 4. and 7.c. apply, subject to the provisions of sub. (12), to all vapor collection systems and all gasoline loading equipment as required under subd. 1.a., except that compliance with subd. 2.c. is required by the deadline stated therein.

2. Vapor control requirements. 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. 1. unless:

a. The storage tank is equipped with a submerged fill pipe, and

b. The vapors displaced from it by filling are processed by a vapor control system in accordance with subd. 3., and

c. After October 1, 1981, the tank truck displays a current sticker demonstrating that the truck is in compliance with par. (d).

3. Vapor control system. The vapor control system required by subd. 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 subpars. a. or b. and approved by the department.

4. Operating requirements. The vapor collection system and the gasoline loading equipment shall be designed and operated in such a manner that prevents:

a. Gauge pressure from exceeding 4.5 kPa (18 inches of H_2O) and vacuum from exceeding 1.5 kPa (6 inches of H_2O) in the gasoline tank truck;

b. A reading equal to or greater than 100% of the LEL at 2.5 centimeters from all points on the perimeter of a potential leak source;

c. Avoidable visible liquid leaks during loading or unloading operations.

5. Delivery vessel unloading. 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 subd. 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.

6. Delivery vessel refilling. During the ozone season, vapor-laden delivery vessels shall be refilled in Wisconsin only at:

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

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

7. Control equipment installation and maintenance. 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 subds. 2., 3., 4. and 5. of par. (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.

c. Repair and retest a vapor collection or control system that exceeds the limits of subd. 4.b. within 15 days.

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

9. Operation and maintenance requirement. 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. 8. 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) *Gasoline delivery vessels.* 1. Applicability. a. Effective April 1, 1981, subd. 2. applies, with compliance deadlines in accord with the compliance schedules for pars. (a), (b) and (c), to all gasoline delivery vessels except those exempted from vapor balance system installations under pars. (b) 1.a. and (c) 1. a.3).

2. Equipment requirements. Except as provided under subd. 1.a., the owner or operator of a gasoline delivery vehicle shall:

a. Provide for all gasoline delivery vessels to be equipped for gasoline vapor collection.

b. Provide for all loading and vapor lines to be equipped with fittings which make vapor-tight connections.

c. Equip vapor lines leading to the vapor space in the delivery vessel with fittings which close automatically when disconnected.

d. Demonstrate through the sticker required in subpar. e. that the gasoline delivery vessel is in compliance with the following provisions:

1) An annual pressure test shall be performed on the vessel;

2) The vessel shall sustain a pressure change of no more than 0.75 kPa (3 inches of H_2O) in 5 minutes when pressurized to a gauge pressure of 4.5 kPa (18 inches of H_2O) or evacuated to a gauge pressure of 1.5 kPa (6 inches of H_2O) during the test required in 1); and

3) A vessel failing to meet the requirements of 2) shall be repaired and retested within 15 days.

e. Display a sticker near the department of transportation certification plate which:

1) Shows the date that the gasoline delivery vessel was last certified under subpar. d.;

2) Shows the identification number of the gasoline delivery vessel.

f. Design and operate the gasoline loading and unloading equipment in a manner that prevents:

1) A reading equal to or greater than 100% of the LEL at 2.5 centimeters from all points on the perimeter of a potential leak source; and

2) Avoidable visible liquid leaks during loading or unloading operations.

g. Repair and retest, within 15 days, components exceeding the limits of subpar. f.1).

3. Pressure test records. a. Maintain for a period of 3 years from the recording date a log for each delivery vessel containing, at a minimum,;

1) Company name and the date and location of test required under subd. 2. d.2),

2) Delivery vessel identification number,

3) Initial test pressure and time of reading,

4) Final test pressure and time of reading,

5) Initial test vacuum and time of reading, and

6) Final test vacuum and time of reading.

b. Annually submit to the department information as developed under subd. 2.d.2), and as recorded under subpars. a.1) through 6).

(e) *Transfer of VOCs at pharmaceutical manufacturing facilities.* 1. Applicability. Effective April 1, 1981, subd. 2. applies, subject to the provisions of sub. (12), to all storage vessels for VOCs of more than 7,751 liter (2,000 gallon) capacity at a synthetic pharmaceutical manufacturing facility.

2. Emission reduction requirements. No owner or operator of a synthetic pharmaceutical manufacturing facility shall permit the delivery of VOCs with vapor pressure in excess of 28.0 kPa (4.1 psia) at 20°C from a truck or railcar to the storage vessel unless a vapor balance or equivalent control system is provided. The system must be at least 90% effective in reducing emissions from transfer operations.

(f) *Transfer of any organic compound.* 1. Applicability. a. This paragraph applies to transfer operations in the Southeastern Wisconsin Intrastate AQCR involving organic compounds, solvents or mixtures having a vapor pressure greater than 10.5 kPa (1.52 psia) 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, with the following exceptions:

1) Transfer operations involving organic compounds which are not photochemically reactive at facilities on which construction or modification was commenced before August 1, 1979.

2) Transfer operations involving, exclusively, organic compounds exempted under sub. (13) (a).

b. Where a provision elsewhere in sub. (3) also applies, the more stringent requirement shall be met.

2. Tank loading. 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 sub. (2) (b) 2.

3. Tank load out for high throughput facilities. 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. Tank load out for low throughput facilities. At facilities with 151,412 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 AND PRINTING PROCESSES. (a) *General applicability.* This subsection applies to any facility which contains one or more of the surface coating or printing process lines described in this subsection, with the following exceptions:

1. Surface coating process lines whose emissions of VOCs are never greater than 6.8 kilograms (15 pounds) in any one day, and never greater than 1.4 kilograms (3 pounds) in any one hour.

2. Surface coating facilities covered under par. (m) which have total emissions of VOCs from all surface coating process lines, with all emission control equipment inoperative, of less than or equal to 10 tons per year.

3. Surface coating facilities covered under pars. (c) through (k) and par. (m) which are 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 which have total emissions of VOCs from the facility, with all emission control equipment inoperative, of less than or equal to 100 tons per year.

4. Printing facilities covered under par. (1) which have total emissions of VOCs from the facility, with all emission control equipment inoperative, of less than or equal to 100 tons per year.

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

a. The operation of the source is not an integral part of the production process; and

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

c. The exemption is approved in writing by the department.

(b) *Methods of compliance.* 1. General methods. The surface coating emission limitations 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 VOCs (VOC measured as total combustible carbon) which enter the incinerator or oxidation unit are oxidized to non-organic compounds; or

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

2. High transfer efficiency coating application. a. Surface coating operations covered under pars. (g), (h), (i) and (m) have the added option of achieving compliance with the emission limitations through the use of a high transfer efficiency coating application system, either when used alone or in conjunction with low solvent content coating technology.

b. Compliance under the option provided in this subdivision must be demonstrated to the satisfaction of the department. This requires that:

1) The design, operation, and efficiency of the application system must be certified in writing by the owner or operator, and

2) The solvent usage per coated part for application system must be less than or equal to the solvent usage per coated part at the applicable emission limitation using baseline transfer efficiency.

3. Capture systems. The design, operation, and efficiency of any capture system used in conjunction with subd. 1.b., c. or d. shall be certified in writing by the owner or operator. The efficiency of the capture system shall be great enough to insure that the emission rate from the controlled line is less than or equal to an emission rate determined using the equation in sub. (13) (b) 1.c. The capture system is subject to approval by the department.

(c) *Can coating.* 1. Applicability. Effective August 1, 1979, this paragraph applies, subject to the provisions of sub. (12), to coating applicators and ovens of sheet, can or end coating lines involved in sheet basecoat (exterior and interior) and overvarnish; 2-piece can exterior

(basecoat and overvarnish); 2- and 3-piece can interior body spray; 2-piece can exterior end (spray or roll coat); 3-piece can side-seam spray and end sealing compound operations. This paragraph does not apply to sources exempted under par. (a).

2. Emission limitations. No owner or operator of a can coating line shall cause, allow or permit the emission of any VOCs 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 2-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 2- and 3-piece can interior body spray and 2-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 3-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.

3. Compliance extensions. a. Notwithstanding the emission limitations of subd. 2 and the provisions of sub. (12), the department may extend until December 31, 1985 the deadline for compliance with the emission limitations of subd. 2, provided that:

1) The can coating operation is a sheet basecoat (exterior or interior) or overvarnish operation and by itself or by the internal offset provisions of sub. (13) (b) meets an interim VOC emission limitation after December 31, 1982 of 0.48 kiligrams per liter of coating (4.0 pounds per gallon), excluding water, delivered to each coating applicator, or

2) The can coating operation is an end sealing compound operation and, by itself or by the internal offset provisions of sub. (13) (b), meets an interim VOC emission limitation after December 31, 1982 of 0.52 kilograms per liter of coating (4.3 pounds per gallon), excluding water delivered to each coating applicator, and

3) The owner or operator of the can coating facility submits a written request for a compliance extension under this subdivision and shows, to the department's satisfaction, that a compliance extension is necessary in order to comply with the emission limitations of subd. 2 through the use of low solvent content coating application technology.

b. If, during the term of an extension granted under this subdivision, the department determines that the can coating operation is not meeting its interim emission limitation, that advances in low solvent content coating application technology eliminate the need for the extension, or that the emission limitations of subd. 2 can be met without the use of energy intensive control devices, it may terminate the extension. Upon termination, the emission limitations of subd. 2 shall apply.

(d) *Coil coating.* 1. Applicability. Effective August 1, 1979, this paragraph applies, subject to the provisions of sub. (12), to the coating appli-

cators, ovens and quench areas of coil coating lines involved in prime and top coat or single coat operations. This paragraph does not apply to sources exempted under par. (a).

2. Emission limitations. No owner or operator of a coil coating line shall cause, allow or permit the emission of any VOCs 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. Effective August 1, 1979, this paragraph applies, subject to the provisions of sub. (12), to the coating applicators, including but not limited to blade, air knife or roll coaters, and drying ovens of paper coating lines. This paragraph 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. (a).

2. Emission limitations. No owner or operator of a paper coating line shall cause, allow or permit the emission of any VOCs 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. Effective August 1, 1979, this paragraph applies, subject to the provisions of sub. (12), to the coating applicators, including but not limited to blade, roll, rotogravure or dip coaters, and drying ovens of fabric and vinyl coating lines. This paragraph does not apply to sources exempted under par. (a).

2. Emission limitations. No owner or operator of a fabric coating line or a vinyl coating line shall cause, allow or permit the emission of any VOCs 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. Effective August 1, 1979, this paragraph applies, subject to the provisions of sub. (12) (f), to the application areas, flashoff areas, and ovens of automobile and light-duty truck manufacturing plants involved in prime, topcoat and final repair coating of metallic front end and main body parts. This paragraph 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. (a).

2. Emission limitations—enamels. 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 VOCs 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. Emission limitations—lacquers. 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 VOCs in excess of:

a. After 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 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. Emission limitations—trucks. No owner or operator of a light-duty truck surface coating line shall cause, allow or permit the emission of any VOCs 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 31, 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. Emission rate averaging. Each emission limit in this paragraph 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. Effective August 1, 1979, this paragraph applies, subject to the provisions of sub. (12), to the application areas, flashoff areas, and ovens of furniture metal coating lines involved in prime and topcoat or single coating operations. This paragraph does not apply to sources exempted under par. (a).

2. Emission limitations. No owner or operator of a furniture metal coating line shall cause, allow, or permit the emission of any VOCs 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. Effective August 1, 1979, this paragarph applies, subject to the provisions of sub. (12), to application areas, flashoff areas, and ovens of large appliance coating lines involved in single, prime, or topcoat coating operations. This paragraph does not apply to:

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

b. 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. Emission limitations. No owner or operator of a large appliance coating line shall cause, allow or permit the emission of any VOCs 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. Effective August 1, 1979, this paragraph applies, subject to the provisions of sub. (12), to the ovens of

magnet wire coating operations. This paragraph does not apply to sources exempted under par. (a).

2. Emission limitation. No owner or operator of a magnet wire coating oven shall cause, allow or permit the emission of any VOCs 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.

(k) *Flat wood panel coating.* 1. Applicability. Effective April 1, 1981, this paragraph applies, subject to the provisions of sub. (12), to the coating lines of flat wood panel facilities involved in the surface coating of printed interior panels made of hardwood plywood and thin particleboard, natural finish hardwood plywood panels, or hardboard paneling with class II finishes. This paragraph does not apply to the manufacture of exterior siding, tileboard, or particleboard used as a furniture component; or to sources exempted under par. (a).

2. Emission limitations. No owner or operator of a flat wood panel coating line shall cause, allow, or permit the emission of any VOCs from a coating application system in excess of:

a. 2.9 kilograms per 100 square meters of coated finished product (6.0 pounds per 1,000 square feet) from printed interior panels, regardless of the number of coats applied;

b. 5.8 kilograms per 100 square meters of coated finished product (12.0 pounds per 1,000 square feet) from natural finish hardwood plywood panels, regardless of the number of coats applied; and

c. 4.8 kilograms per 100 square meters of coated finished product (10.0 pounds per 1,000 square feet) from class II finishes on hardboard panels, regardless of the number of coats applied.

(l) *Graphic arts.* 1. Applicability. Effective April 1, 1981, this paragraph applies, subject to the provisions of sub. (12), to the printing lines of all packaging rotogravure, publication rotogravure, and flexographic printing facilities. This paragraph does not apply to sources exempted under par. (a).

2. Emission limitations. No owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing line shall operate, or cause, allow or permit the operation of the line unless:

a. The volatile fraction of ink, as it is applied to the substrate, contains 25% by volume or less of organic solvent and 75% by volume or more of water;

b. The ink, as it is applied to the substrate, less water, contains 60% by volume or more nonvolatile material; or

c. The owner or operator installs and operates:

1) A vapor recovery system which reduces the VOC emissions from the capture system by at least 90% by weight;

2) An incineration or catalytic oxidation system, provided that 90% of the nonmethane VOCs (VOC measured as total combustible carbon)

which enter the incinerator or oxidation unit are oxidized to non-organic compounds; or

3) An alternative VOC emission reduction system demonstrated to have at least a 90% reduction efficiency, as measured across the control system, and approved by the department.

3. Capture system. The design, operation and efficiency of any capture system used in conjunction with subd. 2.c. shall be certified in writing by the owner or operator and is subject to approval by the deparment. The capture efficiency shall be at a minimum:

a. 75% where a publication rotogravure process is employed;

b. 70% where a packaging rotogravure process is employed; or

c. 65% where a flexographic printing process is employed.

(m) *Miscellaneous metal parts and products.* 1. Applicability. Effective April 1, 1981, this paragraph applies, subject to the provisions of sub. (12), to all coating line application areas, conveyors, flashoff areas, air and forced air driers, and ovens of any industry categorized under standard industrial classification codes of major groups 33 through 39 which are involved in the surface coating of miscellaneous metal parts and products with the following exceptions:

a. Coating of airplane exteriors;

b. Coating of marine vessel exteriors;

c. Automobile refinishing;

d. Customized topcoating of automobiles and trucks if production is less than 35 vehicles per day;

e. Adhesives and materials used to prepare a surface for adhesives;

f. Specialized coatings required by state or federal agencies on products made for their use;

g. Sealants or fillers whose purpose is to seal or fill seams, joints, holes and minor imperfections of surfaces;

h. Coating lines covered under pars. (c) through (j); or

i. Sources exempted under par. (a).

2. Emission limitations—cured coatings. No owner or operator of a miscellaneous metal parts or products coating line using a baked or specially cured coating technology shall cause, allow, or permit the emission of any VOCs in excess of:

a. 0.52 kilograms per liter (4.3 pounds per gallon) of coating, excluding water, delivered to a coating applicator that applies clear coatings;

b. 0.42 kilograms per liter (3.5 pounds per gallon) of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings; and

c. 0.36 kilograms per liter (3.0 pounds per gallon) of coating, excluding water, delivered to a coating applicator for all other coatings.

3. Emission limitations—air dried coatings. No owner or operator of a miscellaneous metal parts or products coating line using an air dried coating technology shall cause, allow, or permit the emission of any VOCs in excess of:

a. After December 31, 1982, 0.58 kilograms per liter (4.8 pounds per gallon) of any coating, excluding water, delivered to a coating applicator;

b. After December 31, 1985, 0.52 kilograms per liter (4.3 pounds per gallon) of coating, excluding water, delivered to a coating applicator that applies clear coatings;

c. After December 31, 1985, 0.42 kilograms per liter (3.5 pounds per gallon) of coating, excluding water, delivered to a coating applicator for all other coatings.

4. Change in technology. Miscellaneous metal parts or products coating lines which, prior to January 1, 1980, used a baked or specially cured coating technology shall meet the emission limitations of subd. 2., notwithstanding the coating technology presently in use.

5. Multiple limitations. If more than one emission limitation in subd. 2. applies to a specific coating, then the least stringent emission limitation shall be applied.

6. Solvent washings. All VOC emissions from solvent washings shall be considered in the emission limitations in subds. 2. and 3., unless the used wash solvent is directed into containers that prevent evaporation into the atmosphere.

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

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

a. After 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 subpar. 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 August 1, 1979, this paragraph applies, with a final compliance deadline of May 1, 1980, or as provided by a compliance schedule issued or approved pursuant to sub. (12) (e), to cold cleaning, open top vapor degreasing and conveyorized degreasing operations.

b. This paragraph 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 VOCs 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 October 1, 1979 in a manner approved by the department.

c. This paragraph 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 subd. 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 subd. 3.c. 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 subd. 4.c. do not apply to conveyorized degreasers with an air-vapor interface smaller than 2.0 square meters (21.6 square feet).

2. Cold cleaners. Except as provided under subd. 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 kPa (0.3 psia) 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 kPa (0.6 psia) 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 kPa (0.6 psia) 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, sub. (1) (c) notwithstanding; and

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

3. Open top vapor degreasers. Except as provided under subd. 1.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

l. Follow the requirements of subd. 2. g.3) and 4); and

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

4. Conveyorized degreasers. Except as provided under subd. 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 that 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 subds. 2. g.3) and 4) and 3.d. and k.

(b) *Perchloroethylene dry cleaning.* 1. Applicability. a. Effective April 1, 1981, this paragraph applies, subject to the provisions of sub. (12), to all dry cleaning facilities in which perchloroethylene solvent is used.

b. The requirements of subd. 2.a. do not apply to perchloroethylene dry cleaning facilities which provide satisfactory documentation to the department showing that an adsorber cannot be accommodated because

of inadequate space or because insufficient steam capacity is available to desorb adsorbers.

2. Requirements. Except as provided under subd. 1., the owner or operator of a perchloroethylene dry cleaning facility shall:

a. Vent the entire dryer exhaust through:

1) A carbon adsorption system which shall emit no more than 100 ppm of VOC, before dilution; or

2) An alternative VOC emission control system demonstrated to achieve an equivalent VOC emission reduction as approved by the department.

b. Maintain the facility so as to prevent leakage of organic solvent from any components in the system and repair any leaks immediately;

c. Cook or treat all diatomaceous earth filters so that the residue contains 25 kilograms or less of VOCs per 100 kilograms of wet waste material;

d. Reduce the VOC content of all solvent still waste to 60 kilograms or less per 100 kilograms of wet waste material;

e. Drain all filtration cartridges, in the filter housing or other sealed container, for at least 24 hours before discarding the cartridges;

f. If transferring cartridges to another sealed container, make such transfer without permitting any solvent to be spilled; and

g. When possible, dry all drained cartridges without emitting VOCs to the atmosphere.

(7) PETROLEUM REFINERY SOURCES. (a) *Vacuum producing systems.* 1. Applicability. Effective August 1, 1979, this paragraph applies, subject to the provisions of sub. (12), to vacuum producing systems at petroleum refining sources.

2. Requirements. The owner or operator of any vacuum producing systems at a petroleum refinery shall not permit the emission of any noncondensible VOC, from the condensers or accumulators of the system. The control required by this subdivision shall be achieved by:

a. Piping the noncondensible 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. Effective August 1, 1979, this paragraph applies, subject to the provisions of sub. (12), to wastewater separators at petroleum refining sources.

2. Requirements. 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. Effective August 1, 1979, this paragraph applies to process unit turnarounds at petroleum refining sources.

2. Requirements. Notwithstanding sub. (12), before 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 VOC 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 VOCs vented; and

b. No emission of VOCs from a process unit or vessel until its internal pressure is 136 kPa (19.7 psia) 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 VOCs emitted and the duration of the emission.

(d) *Fugitive emission sources.* 1. Applicability. Effective April 1, 1981, this paragraph applies to specific fugitive emissions sources at petroleum refineries.

2. Valve requirements. The owner or operator of a petroleum refinery shall not:

a. Install a valve at the end of a pipe or line containing VOCs unless:

1) The pipe or line is sealed with a second valve, a blind flange, a plug, or a cap; or

2) The valve is a safety pressure relief valve.

b. Operate a pipeline valve or pressure relief valve in gaseous service unless it is visibly marked.

3. Monitoring. The owner or operator of a petroleum refinery shall:

a. Notwithstanding sub. (12), before February 1, 1981, develop and submit to the department for approval a monitoring schedule for fugitive emission sources. At a minimum, the schedule shall provide for:

Note: The deadline for developing and submitting a monitoring schedule for fugitive emissions sources should be July 1, 1981, not February 1, 1981.

1) Yearly monitoring of all pump seals, pipeline valves in liquid service, and process drains;

2) Quarterly monitoring of all compressor seals, pipeline valves in gaseous service, and pressure relief valves in gaseous service; and

3) Routine visual inspection of all pump seals on a weekly basis.

b. Provide for the following actions to be performed immediately under the following circumstances:

1) Monitoring of any pump seals from which liquids are observed dripping;

2) Monitoring, subsequent to repair, of any component that had been found leaking; and

3) Visual inspection of the seating of any pressure relief valve after it has vented to the atmosphere.

c. Be exempt from the monitoring requirements of subd. 3.a. and b. for:

1) A pressure relief device connec ed to an operating flare header, or vapor recovery device;

2) Inaccessible valves;

3) Storage tank valves; and

4) Valves not externally regulated.

d. Upon detection of a leaking component which is producing a VOC concentration in excess of 10,000 ppm at any point accessible to the monitoring device:

1) Affix a weatherproof and readily visible tag bearing an identification number and the date the leak is detected to the leaking component;

2) Include the leaking component on a written list of scheduled repairs within 24 hours;

3) Repair and retest the component within 15 days when this is possible without shutting down operations; and

4) Identify all leaking components which cannot be repaired until the unit is shut down for turnaround.

4. Reporting. Beginning June 15, 1981, submit quarterly report to the department containing the following:

Note: The initial date for submitting quarterly reports on the monitoring program should be January 15, 1982, not June 15, 1981.

a. A statement attesting to performance of the monitoring program as approved under subd. 3.a.;

b. The number of each type of components inspected and the total number of components found leaking;

c. Lists of all leaking components awaiting unit turnaround;

d. Lists of any additional leaking components detected but not repaired within 15 days;

e. Status of repair operations of leaking components.

5. Recordkeeping. Maintain a leaking component monitoring log, for a period of 3 years from the recording date, containing as a minimum:

a. The name of the process unit where the component is located;

b. The type of component (e.g., valve, seal);

c. The composition of the stream on which the component is located;

d. The tag number of the component;

e. The date on which a leaking component is discovered;

f. The date on which a leaking component is repaired;

g. The date and instrument reading of the recheck procedure after a leaking component is repaired;

h. A record of the calibration of the monitoring instrument;

i. A list of leaks that cannot be repaired until turnaround; and

j. The total number of components checked in the last quarter and the total number of components found leaking.

(8) RUBBER PRODUCTS MANUFACTURE. (a) *Pneumatic rubber tire manufacture.* 1. Applicability. a. Effective April 1, 1981, this paragraph applies, subject to the provisions of sub. (12) to all pneumatic rubber tire manufacturing facilities involved in undertread cementing, tread end cementing, bead dipping, or green tire spraying operations.

b. This paragraph does not apply to the production of specialty tires for antique or other vehicles when produced on an irregular basis or with short production runs. This exemption applies only to tires produced on equipment separate from normal production lines for passenger type tires.

c. The requirements of subd. 2. do not apply provided the combined total VOC emissions from all undertread cementing, tread end cementing, bead dipping and green tire spraying operations are less than or equal to 57 grams per tire produced and the emission rates are determined and certified under subd. 3. by August 31, 1981.

2. Emission control requirements. The owner or operator of a pneumatic rubber tire manufacturing facility shall:

a. For all undertread cementing, tread end cementing and bead dipping operations install and operate:

1) A carbon adsorption system which reduces the VOC emissions from the capture system by at least 90% by weight;

2) An incineration or catalytic oxidation system which oxidizes at least 90% of the nonmethane VOCs (measured as total combustible carbon) which enter the incineration or oxidation unit, to non-organic compounds; or

3) An alternative VOC emission reduction system demonstrated to have at least 90% reduction efficiency measured across the control system, as approved by the department.

b. For green tire spraying operations, implement one of following control strategies:

1) Utilize water-based mold release compound sprays with a volatile fraction containing, at a minimum, 90% water;

2) Install and operate a carbon adsorption system which reduces the VOC emission from the capture system by at least 90% by weight;

3) Install and operate an incineration or catalytic oxidation system which oxidizes at least 90% of the nonmethane VOCs (VOC measured as total combustible carbon) which enter the incinerator or oxidation unit to nonorganic compounds; or

4) Install and operate an alternate VOCs emission reduction system demonstrated to have at least a 90% reduction efficiency, measured across the control system, as approved by the department.

c. For any control device required by this subsection, install and operate a capture system, as approved by the department, which is designed to provide maximum reasonable capture and transfer of VOCs to the control device. Maximum reasonable capture and transfer shall be in accord with guidance provided by:

1) Industrial Ventilation: A Manual of Recommended Practices, 14th ed., and

2) Recommended Industrial Ventilation Guidelines.

Note: See Industrial Ventilation: A Manual of Recommended Practices, 14th ed., Committee on Industrial Ventilation, American Conference of Governmental Hygienists, 1976, (available from: Governmental Industrial Hygientists, P.O. Box 16153, Lansing, Michigan 48901) and U.S. Department of Health, Education and Welfare. National Institute of Occupational Safety and Health, Recommended Industrial Ventilation Guidelines, Springfield, VA: National Technical Information Service, PB 266 227, 1976. Copies of these documents 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 respective agencies listed above.

3. Emissions testing schedule. The owner or operator of a pneumatic rubber tire manufacturing facility shall not exceed the following deadlines:

a. Submit, by May 1, 1981, a plan for tests to measure VOC emissions from undertread cementing and tread end cementing operations. Any capture systems used for such tests shall be designed in accord with guidelines presented in subd. 2.c.

b. Commence construction of systems needed in order to measure emissions by June 15, 1981.

c. Complete construction of equipment needed for testing and begin testing by July 1, 1981.

d. Complete testing by July 31, 1981.

e. Submit to the department documentation, including test results, of the actual combined total VOC emissions from all undertread cementing, tread end cementing, bead dipping and green tire spraying operations per tire produced by August 31, 1981.

(9) CHEMICAL MANUFACTURE. (a) *Pharmaceutical manufacture.* 1. Applicability. Effective April 1, 1981, this paragraph applies, subject to the provisions of sub. (12), to all operations at pharmaceutical manufacturing facilities involved in the manufacture of pharmaceutical products by chemical synthesis, with the exception of any reactor, distillation unit, dryer, filter, crystallizer, centrifuge, or other individual operation that

has a potential emission rate of less than 6.8 kilograms per day (15 pounds per day).

2. Emission control requirements. Except as provided under subd. 1., the owner or operator of a synthesized pharmaceutical manufacturing facility shall:

a. Equip each vent from reactors, distillation operations, crystallizers, centrifuges, or vacuum dryers with surface condensers or an equally effective control device as approved by the department. If a surface condenser is used, the condenser outlet gas temperature shall not exceed:

1) −25°C (−13°F) for VOCs with vapor pressure greater than 40 kPa (5.8 psia) as measured at 20°C (68°F);

2) −15°C (5°F) for VOCs with vapor pressure between 20 kPa (2.9 psia) and 40 kPa (5.8 psia) as measured at 20°C (68°F);

3) 0°C (32°F) for VOCs with vapor pressure between 10 kPa (1.5 psia) and 20 kPa (2.9 psia) as measured at 20°C (68°F);

4) 10°C (50°F) for VOCs with vapor pressure between 7 kPa (1.0 psia) and 10 kPa (1.5 psia) as measured at 20°C (68°F);

5) 25°C (77°F) for VOCs with vapor pressure between 3.5 kPa (0.5 psia) and 7 kPa (1.0 psia) as measured at 20°C (68°F).

b. Limit the VOC emissions from air dryer exhaust systems and production equipment exhaust systems to 15.0 kilograms per day (33 pounds per day) or to 10% of the uncontrolled emission rate of the system, whichever is less stringent.

c. Enclose all centrifuges, rotary vacuum filters, and any other filters having an exposed liquid surface, where the liquid contains VOCs and exerts a total VOC vapor pressure of 3.5 kPa (0.5 psia) or more at 20°C (68°F).

d. Install covers on all in-process tanks that contain a VOC at any time. Covers are to be closed except for necessary operator access during production, sampling, maintenance or inspection.

e. Repair all visually detectible leaks of liquid VOCs the first time the equipment is off-line for a period long enough to complete the repair.

(11) OTHER DIRECT SOURCES. (a) *Process lines emitting organic compounds.* 1. Applicability. a. This paragraph applies to all process lines which emit organic compounds, solvents or mixtures, with the following exceptions:

1) Process lines outside the Southeast Wisconsin Intrastate AQCR on which construction or modification commenced on or before April 1, 1972.

2) Organic compound-water separation systems that process 757 liters (200 gallons) per day or less.

3) Enclosed paint spraying operations from which emissions are never greater than 13.6 kilograms (30 pounds) in any day and never greater than 2.8 kilograms (6 pounds) in any hour.

4) All other process lines from which organic compound emissions are never greater than 6.8 kilograms (15 pounds) in any day and never greater than 1.4 kilograms (3 pounds) in any hour.

b. Where process lines are subject to emission limitations listed elsewhere in this section, the requirements of this paragraph shall apply in accord with the provisions of sub. (12) (g) 2.

2. Emission limitations. Process lines to which this paragraph applies shall meet the following emission limitations:

a. Process lines on which construction or modification commenced before August 1, 1979, shall control emissions of photochemically reactive organic compounds by 85%.

b. Process lines on which construction or modification commenced on or after August 1, 1979, but before April 1, 1981, shall control emissions of all organic compounds by 85% or, where a provision elsewhere in this section also applies, meet the requirement which results in emission of the smallest quantity of VOCs.

c. Process lines on which construction or modification commenced after April 1, 1981, and which are not subject to emission limitations listed elsewhere in this section shall:

1) Control organic compound emission by at least 85%, or

2) Where 85% control has been demonstrated to be technologically infeasible for a specific process line, control organic compound emissions by use of the latest available control techniques and operating practices demonstrating best current technology, as approved by the department.

3. Election. Surface coating and printing processes subject to the requirements of this subsection may instead elect, with the approval of the department, to meet the emission limitations of sub. (4), notwithstanding subs. (4) (a) 1., 2., 3., or 4. and (12), provided that:

a. The process line meets the specific applicability requirements of sub. (4) (c), (d), (e), (f), (g), (h), (i), (j), (k), (l) or (m); and

b. The owner or operator submits a written request to the department. Written requests under this subdivision shall include, in the case of sources constructed prior to August 1, 1979, a schedule for meeting the requirements of sub. (4).

(12) COMPLIANCE SCHEDULES. (a) *Applicability exceptions.* Paragraphs (b) through (h) do not apply to a source which is in compliance with the emission limitations of this section provided the source has determined and certified compliance to the satisfaction of the department within 90 days after the date specified in subd. 1., 2. or 3., nor do pars. (b) through (g) apply to a source on which construction or modification commenced on or after the specified date. Sources on which construction or modification commenced on or after the date specified in subd. 1., 2. or 3., shall meet the emission requirements of this section in accordance with the provisions of par. (h).

1. The date of August 1, 1979, applies to all sources covered under subs. (2) (a) 1.c., (3) (a) 1.a., (3) (b) 1.a., (3) (c) 1.a., (4) (c) 1., (4) (d) 1., (4)

(e) 1., (4) (f) 1., (4) (g) 1., (4) (h) 1., (4) (i) 1., (4) (j) 1., (6) (a) 1., (7) (a) 1., (7) (b) 1., and (7) (c) 1.

2. The date of April 1, 1981, applies to all sources covered under subs. (2) (a) 1.d., (2) (b) 1., (3) (a) 1.b., (3) (b) 1.b., (3) (c) 1.b., (3) (e) 1., (4) (k) 1., (4) (l) 1., (4) (m) 1., (6) (b) 1., (7) (d) 1., and (9) (a) 1.

3. The date of August 31, 1981 applies to all sources covered under sub. (8) (a) 1.

(b) *Process and emission control equipment installations.* 1. Except as provided under par. (e) and sub. (13), the owner or operator of a VOC emission source proposing to install and operate VOC 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 as measured from the date specified in par. (a) 1., 2. or 3. for that source:

a. Submit final plans for achieving compliance within 5 months.

b. Award contracts for the emission control systems or process equipment or issue orders for purchase of component parts to accomplish emission control within 8 months.

c. Commence construction or installation of the emission control system or process equipment within 13 months.

d. Complete construction or installation of the emission control system or process equipment within 25 months.

e. Achieve final compliance within 26 months of the date specified in par. (a) 1., 2. or 3. for that source.

2. Any owner or operator of a source subject to the compliance schedule of subd. 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 achieved.

(c) *Low solvent content coating or ink.* 1. Except as provided under subds. 2. through 5., par. (e) and sub. (13), the owner or operator of a VOC source proposing to employ low solvent content coating or ink application technology to comply with the requirements of this section shall not exceed the deadlines specified for the following increments of progress as measured from the date specified in par. (a) 1., 2. or 3. for that source:

a. Submit final plans for achieving compliance within 5 months.

b. Complete research and development work on low solvent content coatings or inks within 14 months.

c. Complete evaluation of product quality and commercial acceptability within 18 months.

d. Issue purchase orders for low solvent content coatings or inks and process modifications within 19 months.

e. Commence process modifications within 21 months.

f. Complete process modifications and begin the use of low solvent content coatings or inks within 27 months.

g. Achieve final compliance within 28 months of the date specified in par. (a) 1., 2. or 3. for that source.

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 sub. (4) (c) 2.d. or (4) (e) 2. may exceed each of the deadlines in subd. 1.b. through g. by 12 months in developing acceptable can end sealing compounds or coatings for hydrophobic flexible packaging subtrates.

3. The owner or operator of a graphic arts facility proposing to employ low solvent content ink application .echnology to comply with the requirements of sub. (4) (l) may, for hydrophobic substrates, extend the date for achieving final compliance to December 31, 1985, provided:

a. Final plans for achieving compliance are submitted by September 1, 1981;

b. The plans include the increments of progress described in subd. 1.b. through f.;

c. Sufficient documentation is submitted to justify the extension; and

d. The plans provide for final compliance by December 31, 1985 through the use of an emission reduction system described in sub. (4) (l) 2.c. and 3. in case the product quality and commercial acceptability evaluation shows low solvent content ink application technology to be unsatisfactory.

4. The owner or operator of a miscellaneous metal parts and products coating facility proposing to employ low solvent content coating technology to comply with the requirements of sub. (4) (m) may, for extreme performance coatings requiring prolonged product quality evaluation periods, extend final compliance provided:

a. Final plans for achieving compliance are submitted by September 1, 1981;

b. The plans include the increments of progress described in subd. 1.b. through f.;

c. Sufficient documentation is submitted to justify the extension; and

d. Final compliance is extended to accommodate the prolonged evaluation period but in no case beyond December 31, 1985.

5. Where the deparment determines that the low solvent content coating or ink application technology has been sufficiently researched and developed for a particular application, the owner or operator of a VOC source proposing to comply with the requirements of this section through application of low solvent content coatings or inks shall not exceed the deadlines specified for the following increments of progress as measured from the date specified in par. (a) 1., 2. or 3. for that source:

a. Submit final plans for achieving compliance within 5 months.

b. Complete evaluation of product quality and commercial acceptability within 11 months.

c. Issue purchase orders for low solvent content coatings or inks and process modifications within 13 months.

d. Commence process modifications within 15 months.

e. Complete process modifications and begin the use of low solvent content coatings or inks within 20 months.

f. Achieve final compliance within 21 months of the date specified in par. (a) 1., 2. or 3. for that source.

6. Any owner or operator of a stationary source subject to one of the compliance schedules in this paragraph shall certify to the department, within 7 days after the deadline for each increment of progress, whether the required increment of progress has been achieved.

(d) *Equipment modification.* 1. Except as provided under par. (e) and sub. (13), the owner or operator of a VOC source proposing to comply with the requirements of this section by modification of existing processing or emission control equipment shall not exceed the deadlines specified for the following increments of progress as measured from the date specified in par. (a) 1. or 2. for that source:

a. Submit final plans for achieving compliance with 5 months.

b. Award contracts for equipment modifications or issue orders for the purchase of component parts to accomplish equipment modifications within 7 months.

c. Commence construction or installation of equipment modifications within 10 months.

d. Complete construction or installation of equipment modifications within 16 months.

e. Achieve final compliance within 20 months of the date specified in par. (a) 1. or 2. for that source.

2. Any owner or operator of a source subject to the compliance schedule of subd. 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 achieved.

(e) *Alternate compliance schedules.* 1. Notwithstanding the deadlines specified in pars. (b) through (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. (b) through (d) would not be feasible. The alternate compliance schedule may be proposed by the owner or operator of a VOC 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 within 2 months of the date specified in par. (a) 1., 2. or 3. for that source.

b. Final plans for achieving compliance with the requirements of this section shall be submitted within 5 months of the date specified in par. (a) 1., 2. or 3. for that source.

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. (e) shall provide for compliance of the source with the requirements of subs. (2) through (10) 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 this paragraph 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. (b) to (d) shall be in effect.

(f) *Phased emission reduction schedules.* 1. This paragraph applies only to sources covered under sub. (4) (g) and (m) 3.

2. Except as provided under sub. (13), 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 within 12 months of the date specified in par. (a) 1. or 2. for that source.

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 this subsection to be unsatisfactory, it may require that the plan be resubmitted with appropriate revisions.

2. Process lines subject to requirements of this subsection on which construction or modification commenced on or before August 1, 1979 shall continue to comply with the requirements of sub. (11) (a) 2.a. during any interim period prior to the final compliance date in the applicable compliance schedule.

3. Process lines covered under subs. (2) (a) 1.d., (2) (b) 1., (3) (a) 1.b., (3) (b) 1.b., (3) (c) 1.b., (3) (e) 1., (4) (k) 1., (4) (l) 1., (4) (m) 1., (6) (b) 1., (7) (d) 1., (8) (a) 1., and (9) (a) 1. on which construction or modification commenced on or after August 1, 1979 but before April 1, 1981 shall continue to comply with the requirements of sub. (11) (a) 2.b. during any interim period prior to the final compliance date in the applicable compliance schedule.

4. Process lines covered under sub. (8) (a) 1. on which construction or modification commenced on or after April 1, 1981 but before August 31, 1981 shall continue to comply with the requirements of sub. (11) (a) 2.c. during any interim period prior to the final compliance date in the applicable compliance schedule.

5. Where a source is not subject to requirements of this subsection and was previously unregulated under this section, the final compliance plan shall specify reasonable measures to minimize emissions of VOCs during the interim period prior to the final compliance date.

(h) *New and modified sources.* Any source on which construction or modification commenced on or after the date specified for such source in par. (a) 1., 2. or 3. shall meet the emission limitations of this section upon start-up unless the owner or operator of the source demonstrates, to the satisfaction of the department, that compliance upon start-up would be technologically infeasible. Such sources shall instead meet a department-specified compliance schedule which provides for interim emission limitations and for ultimate compliance with the emission limitations of this section. Ultimate compliance shall be as soon as practicable but in no event later than the source would have been required to meet under par. (b), (c), (d), or (f) if it had been constructed or modified prior to the date specified in par. (a) 1., 2. or 3.

(13) EXCEPTIONS, REGISTRATION AND DEFERRALS. (a) *Exceptions for certain organic compounds.* 1. For sources on which construction or modification commenced before August 1, 1979, the provisions of subs. (2) (c), (3) (f) and (11) (a) do not apply to the storage, transfer, use or application of saturated halogenated hydrocarbons, perchloroethylene or acetone.

2. The requirements of this section do not apply to the use or application of insecticides, pesticides or herbicides or to the use or emission of trichlorotrifluoroethane (freon 113), ethane or methane.

(b) *Internal offsets.* 1. No owner or operator of any surface coating or printing facility shall cause or allow the emission of VOCs from any coating or printing line to exceed the limitations contained in this section unless:

a. Each coating or printing line which is involved in the internal offset is operating with an emission rate of VOCs less than or equal to the adjusted emission rate for the coating or printing 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 or printing line was commenced on or before:

1) August 1, 1979, for sources covered under sub. (4) (c) 1., (d) 1., (e) 1., (f) 1., (g) 1., (h) 1., (i) 1. and (j) 1.; and

2) April 1, 1981, for sources covered under sub. (4) (k) 1., (l) 1. and (m) 1.; and

c. The combined emission rate from all coating or printing lines involved in the internal offset is less than or equal to an emission rate determined by the following equation:

$$E = \frac{A_1B_1C_1}{D_1} + \frac{A_2B_2C_2}{D_2} + \ldots + \frac{A_nB_nC_n}{D_n}$$

where E = the total allowable emission rate from all of the coating or printing lines involved in the internal offset in kilograms per hour (pounds per hour), $A_{1,2\ldots n}$ = the allowable emission rate for each coating or printing line pursuant to sub. (4) in kilograms per liter (pounds per gallon) of coating or ink, excluding water, delivered to the applicator, $B_{1,2\ldots n}$ = the amount of coating material or ink in liters per hour (gallons per hour), excluding water, delivered to the applicator, $C_{1,2\ldots n}$ = volume fraction of solids in the coating or ink, excluding water, delivered to the applicator, and $D_{1,2\ldots n}$ = theoretical volume fraction of solids, in the coating or ink necessary to meet the allowable emission rate for each coating or printing line pursuant to sub. (4) calculated from:

$$D_{1,2\ldots n} = 1 - \left(\frac{A_{1,2\ldots n}}{P_{1,2\ldots n}}\right)$$

where $P_{1,2\ldots n}$ = the density of solvent used in the coating or ink delivered to the applicator in kilograms per liter (pounds per gallon), 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 or printing facility only after the department has approved a compliance plan which:

a. Specifies an emission rate for each of the coating or printing lines involved in the internal offset, and

b. Includes a compliance schedule consistent with sub. (12).

3. 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.

4. The compliance plan required under subd. 2. shall include a compliance schedule consistent with sub. (12).

(c) *Compliance schedule delays.* Notwithstanding any compliance schedule approved or issued under sub. (12), 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. (12) for the increment of progress due to circum-

stances beyond the owner or operator's control which could not reasonably have been avoided by using all prudent planning;

2. Final compliance for sources covered under subs. (2) (a) 1.c., (3) (a) 1.a., (b) 1.a., (c) 1.a., (4) (c) 1., (d) 1., (e) 1., (f) 1., (h) 1., (i) 1., (j) 1., (6) (a) 1., (7) (a) 1., (b) 1. and (c) 1. is not later than December 31, 1982; and

3. For sources covered under subs. (2) (a) 1.d., (b) 1., (3) (a) 1.b., (b) 1.b., (c) 1.b., (e) 1., (4) (k) 1., (l) 1., (m) 1., (6) (b) 1., (7) (d) 1., (8) (a) 1. and (9) (a) 1. final compliance shall not exceed that required in sub. (12).

(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. The provisions of this paragraph may be applied, subject to approval of the department, where the requirements of this section are met by use of other energy intensive control devices.

(e) *Registration of certain solvents, exemption.* 1. Except for the provisions of sub. (1) (a) and (b), and this paragraph, this section does not apply to the use of methylene chloride and methyl chloroform.

2. Any person operating a source which has total combined emissions of methylene chloride and methyl chloroform in excess of 0.5 tons in a calendar year shall register the solvent use with the department by February 1 of the year following such use.

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; am. (3)(c) 2. and 4., Register, August, 1979, No. 284, eff. 9-1-79; am., Register, March, 1981, No. 303, eff. 4-1-81; cr. (12) (b) and am. (12) (a) (intro.) and (g) 5., Register, July, 1981, No. 307, eff. 8-1-81; am. (13) (a) and cr. (13) (e), Register, December, 1982, No. 324, eff. 1-1-83; am. (4) (b) 3., (g) 4. f., (m) 1.f., (6) (b) 1. b. and (13) (b) 1. c., cr. (14) (c) 3., Register, July, 1983, No. 331, eff. 8-1-83.

NR 154.14 Control of carbon monoxide emissions. (1) GENERAL LIMITATIONS. No person shall cause, suffer, allow, or permit emission of carbon monoxide to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution.

(2) CARBON MONOXIDE LIMITATIONS. No person shall cause, suffer, allow, or permit significant emissions of carbon monoxide from any new direct source not listed below to be emitted to the ambient air unless such emissions are incinerated at 1,300°F for 0.3 seconds, or reduced by some other means an equivalent amount. Such emissions shall include, but are not limited to, the exhaust from cupolas, blast furnaces, basic oxygen furnaces; or waste streams from petroleum fluid cokers or other petroleum processes. Compliance with these limitations shall be shown to the department on initial startup of the source.

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

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

NR 154.145 Control of lead emissions. (1) GENERAL LIMITATIONS. No person may cause, allow or permit emissions into the ambient air of lead

or lead compounds which substantially contribute to the exceeding of an air standard or air increment, or which creates air pollution.

(2) LEAD LIMITATIONS. No person may cause, allow or permit lead or lead compounds to be emitted to the ambient air in amounts greater than the department may establish by permit condition under s. 144.393 (5) or 144.394, Stats., by rule or by special order.

History: Cr. Register, April, 1983, No. 328, eff. 5-1-83.

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

(2) NITROGEN OXIDES LIMITATIONS. No person shall cause, suffer, allow, or permit nitrogen oxides (expressed as NO_2) to be emitted to the ambient air in amounts greater than:

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

1. Firing of gaseous fossil fuel; 0.20 pounds of NO_2 per million BTU input.

2. Firing of liquid fossil fuel: 0.30 pounds of NO_2 per million BTU input.

3. Firing of solid fossil fuel: 0.70 pounds of NO_2 per million BTU input.

(b) New or modified weak nitric acid plants (acid 30 to 70% in strength:) 3.0 pounds of NO_2 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 s. NR 154.11 (7) (c) of these rules.

(b) *Particulate emission limits.* No person while burning standby fuel shall cause, suffer, allow, or permit to be emitted to the ambient air particulate matter which substantially contribute to the exceeding of an air standard or create air pollution.

(c) *Sulfur emission limits.* 1. In the Southeast Wisconsin Intrastate Air Quality Control Region, no person shall cause, suffer, allow, or permit use of standby fuel with greater sulfur content than:

a. Coal: 1.50% (by weight as fired)

b. Residual Oil: 1.00%

c. Distillate Oil: 0.70%

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

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

NR 154.17 Control of motor vehicles, internal combustion engines, and mobile sources. (1) GENERAL LIMITATIONS. No person shall cause, suffer, allow, or permit emissions of particulate matter, sulfur oxides, hydrocar-

Next page is numbered 645

bons, 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) TAMPERING WITH AIR POLLUTION CONTROL EQUIPMENT. No person may dismantle, remove, or cause to be inoperative any air pollution control device or system which has been installed on a motor vehicle unless the person replaces the device or system with an identical or comparable tested replacement device or system.

(a) Positive crankcase 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) MOTOR VEHICLE EMISSION LIMITATIONS; EXEMPTIONS. (a) Any motor vehicle which is subject to inspection under s. 110.20 (6), Stats., may not emit carbon monoxide (CO) or hydrocarbons (HC) from the exhaust system in concentrations greater than those set forth in Table 1 when measured in an inspection conducted under ch. Trans 131.

Table 1

MODEL YEAR GROUPS			MAXIMUM EMISSION CONCENTRATION	
Light Duty Vehicles	Light Duty Trucks with gross vehicle weight of 6000 pounds or less	Light Duty Trucks with gross vehicle weight of 6001 to 8000 pounds	HC (parts per million of exhaust)	CO (as a percent of exhaust)
——	——	1968-1969	1450	9.0
1968-1971	1968-1971	1970-1972	800	8.0
1972-1974	1972-1974	1973-1978	700	7.0
1975-1977	1975-1978	——	600	6.0
1978-1979	1979-1984	1979-1984	400	4.0
1980	——	——	275	2.5
1981-1987	1985-1987	1985-1987	220	1.2

Note: Chapter Trans 131 is being adopted by the Department of Transportation and promulgation is expected September 1, 1983. Copies of ch. Trans 131 may be obtained from the Department of Transportation, Division of Motor Vehicles, Room 255, Hill Farms State Office Building, 4802 Sheboygan Avenue, Madison, Wisconsin 53702.

(b) In addition to the vehicles specified in s. 144.42 (5), Stats., the following motor vehicles are exempt from the emission limitations of par. (a):

1. A motor carrier used "for hire" as defined in s. 194.01 (15), Stats.

2. A truck tractor as defined in s. 340.01 (73), Stats.

3. A motor home as defined in s. 340.01 (33m), Stats.

4. A motor vehicle registered under s. 341.26 (2) (b), (d), (dm), (e), (f), (g), (h), (i), (j), (k) or (m), (2r) or (4), Stats.

(4) VISIBLE EMISSION LIMITS FOR MOTOR VEHICLES, INTERNAL COMBUSTION ENGINES, AND MOBILE SOURCES. No person shall cause, suffer, allow,

or permit visible emissions in amounts greater than the following limitations, except when uncombined water is the cause for violation.

(a) Gasoline-powered internal combustion engines of 25 HP or more, or gasoline-powered motor vehicles: no visible emissions for longer than 5 consecutive seconds.

(b) Diesel-powered motor vehicles of model year 1970 or later: emissions of shade or density greater than number 1 on the Ringelmann chart or 20% opacity for longer than 10 consecutive seconds.

(c) Diesel-powered motor vehicles of model year 1969 or earlier: emissions of shade or density greater than number 2 on the Ringelmann chart of 40% opacity for longer than 10 consecutive seconds.

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

History: Cr. Register, March, 1972, No. 195, eff. 4-1-72; am. (2) (intro.) and r. and recr. (3), Register, April, 1983, No. 328, eff. 5-1-83; reprinted to correct error in (2) (b) and (c), Register July, 1983, No. 331.

NR 154.18 Malodorous emissions. (1) GENERAL LIMITATIONS. No person shall cause, suffer, allow, or permit emission into the ambient air any substance or combination of substances in such quantities that an objectionable odor is determined to result unless preventive measures satisfactory to the department are taken to abate, or control such emission.

(a) An odor shall be deemed objectionable when either or both of the following tests are met:

1. Upon decision resulting from investigation by the department, based upon the nature, intensity, frequency, and duration of the odor as well as the type of area involved and other pertinent factors.

2. Or when 60% of a random sample of persons exposed to the odor in their place of residence or employment, other than employment at the odor source, claim it to be objectionable and the nature, intensity, frequency, and duration of the odor are considered.

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

1. Use of catalytic incinerators, after burners, scrubbers, adsorbers, absorbers, or other methods approved by the department.

2. The removal and disposal of odorous materials.

3. The use of methods in handling and storage of odorous materials that minimize emissions.

4. The following of prescribed standards in the maintenance of premises to reduce odorous emissions.

5. Use of best available control technology to reduce odorous emissions.

(2) TOTAL REDUCED SULFUR LIMITATIONS. No person shall cause, suffer, allow, or permit emission into the ambient air of total reduced sulfur