Chapter NR 465

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR GENERAL SURFACE COATING PROCESSES

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Subchapter I — Wood Furniture Manufacturing Operations

NR 465.01 Applicability; purpose. (1) APPLICABILITY. (a) This subchapter applies to each facility that is engaged, either in part or in whole, in the manufacture of wood furniture or wood furniture components and that is located at a plant site that is a major source of hazardous air pollutants.

(b) An incidental wood furniture manufacturer shall maintain purchase or usage records demonstrating the source meets the criteria specified in s. NR 465.02 (33), but the source is not subject to any other provisions of this subchapter.

(c) A source that qualifies as an area source under this paragraph is not subject to any provisions of this subchapter other than those in this paragraph. For subds. 1. and 2., finishing materials, adhesives, cleaning solvents and washoff solvents used for wood furniture or wood furniture component manufacturing operations shall account for at least 90% of annual HAP emissions at the plant site, and if the plant site has HAP emissions that do not originate from the listed materials, the owner or operator shall keep any records necessary to demonstrate that the 90% criterion is being met. A source that initially relies on the limits and criteria specified in subd. 1., 2. or 3. to become an area source, but subsequently exceeds the relevant limit, without first obtaining and complying with other limits that keep its potential to emit hazardous air pollutants below major source levels, becomes a major source and shall comply thereafter with all applicable provisions of this subchapter starting on the applicable compliance date in s. NR 465.055. Nothing in this paragraph is intended to preclude a source from limiting its potential to emit through other appropriate mechanisms. A source qualifies as an area source for the purposes of this subchapter if the criteria in one of the following subdivisions are met:

1. The owner or operator of the source uses no more than a total of 250 gallons per month, for every month, of coating, adhesive, cleaning material and washoff materials at the source, including materials used for source categories other than wood furniture, but excluding materials used in routine janitorial or facility grounds maintenance, personal uses by employees or other persons, the use of products for the purpose of maintaining motor vehicles operated by the facility, the use of toxic chemicals contained in intake water used for processing or noncontact cooling and intake air used either as compressed air or for combustion. The owner or operator shall maintain records for 5 years of the total gallons of coating, adhesive, cleaning material and washoff material used each month, and upon request submit the records to the department.

2. The owner or operator of the source uses no more than 3,000 gallons per rolling 12−month period, for every 12−month period, of coating, adhesive, cleaning material and washoff material at the source, including materials used for source categories other than wood furniture, but excluding materials used in routine janitorial or facility grounds maintenance, personal uses by employees or other persons, the use of products for the purpose of maintaining motor vehicles operated by the facility, the use of toxic chemicals contained in intake water used for processing or noncontact cooling and intake air used either as compressed air or for combustion. The owner or operator of the source shall maintain records of the total gallons of coating, adhesive, cleaning material and washoff material used each month and the total gallons used each previous month, and upon request submit the records to the department. The owner or operator shall keep monthly records beginning no less than one year before the compliance date specified in s. NR 465.055 and maintain the records for 5 years.

3. The source emits no more than 4.5 Mg (5 tons) of any one HAP per rolling 12−month period and no more than 11.4 Mg (12.5 tons) of any combination of HAP per rolling 12−month period, and at least 90% of the plantwide HAP emissions per rolling 12−month period are associated with the manufacture of wood furniture or wood furniture components. The owner or operator shall maintain records for 5 years that demonstrate that annual emissions do not exceed these levels, including monthly usage records and certified product data sheets for all finishing material, adhesive, cleaning material and washoff material, and any other records necessary to document emissions from source categories

other than wood furniture. The owner or operator shall submit the records to the department upon request.

(d) This subchapter does not apply to research or laboratory equipment for which the primary purpose is to conduct research and development into new processes and products, where the equipment is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

(e) The owner or operator of an affected source shall comply with the requirements of ch. NR 460, according to the applicability of ch. NR 460 to the sources, as identified in ch. NR 460 Appendix JJ.

(f) Reconstructed affected sources are subject to the requirements for new affected sources. The costs associated with the purchase and installation of air pollution control equipment are not considered in determining whether the facility has been reconstructed, unless the control equipment is part of the process. Additionally, the costs of retrofitting and replacement of equipment that is installed specifically to comply with this subchapter are not considered reconstruction costs.

Note: An example of when control equipment is part of a process is where the equipment is used to recover product or raw material. An example of costs for equipment replacement which would not be considered reconstruction costs is the replacement of storage tanks, mix equipment and transfer lines to accommodate conversion to waterborne coatings where the purpose of the conversion is to comply with this subchapter.

(2) PURPOSE. This subchapter is adopted under ss. 285.27 (2) and 285.65, Stats., to establish emission standards for hazardous air pollutants for wood furniture and wood furniture component manufacturing operations.

Note: This subchapter is based on the federal regulations contained in 40 CFR part 63 Subpart JJ, created Dec. 7, 1995, as last revised on Dec. 28, 1998.

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01; CR 03−037: am. (1) (a), (b), (c) (intro), (d) (f), and (2) Register March 2004 No. 579, eff. 4−1−04.

NR 465.02 Definitions. For terms not defined in this section, the definitions contained in chs. NR 400 and 460 apply to the terms used in this subchapter, with definitions in ch. NR 460 taking priority over definitions in ch. NR 400. If this section defines a term which is also defined in ch. NR 400 or 460, the definition in this section applies in this subchapter. In this subchapter:

(1) "Adhesive" means any chemical substance that is applied for the purpose of bonding 2 surfaces together other than by mechanical means. Products used on humans and animals, adhesive tape, contact paper or any other product with an adhesive incorporated onto or in an inert substrate are not considered adhesives under this subchapter.

(2) "Aerosol adhesive" means an adhesive that is dispensed from a pressurized container as a suspension of fine solid or liquid particles in gas.

(3) "Affected source" means a wood furniture manufacturing facility that is engaged, either in part or in whole, in the manufacture of wood furniture or wood furniture components and that is located at a plant site that is a major source of hazardous air pollutants.

(4) "Alternative method" means any method of sampling and analyzing for an air pollutant that is not a reference or equivalent method but has been demonstrated to the administrator's satisfaction to, in specific cases, produce results adequate for a determination of compliance.

(5) "As applied" means the HAP and solids content of the coating or contact adhesive that is actually used for coating or gluing the substrate. It includes the contribution of materials used for in−house dilution of the coating or contact adhesive.

(6) "Basecoat" means a coat of colored material, usually opaque, that is applied before graining inks, glazing coats or other opaque finishing materials, and is usually topcoated for protection.

(7) "Capture device" means a hood, enclosed room, floor sweep or other means of collecting solvent emissions or other pollutants into a duct so that the pollutant can be directed to a pollution control device such as an incinerator or carbon adsorber.

(8) "Capture efficiency" means the fraction of all organic vapors generated by a process that are directed to a control device.

(9) "Certified product data sheet" or "CPDS" means documentation furnished by coating or adhesive suppliers or an outside laboratory and measured in accord with s. NR 465.09 (1) that provides all of the following:

(a) The VHAP content of a finishing material, contact adhesive or solvent, by percent by weight, for each VHAP present in concentrations greater than or equal to 1.0% by weight, or 0.1% for VHAP that are carcinogens as defined by the occupational safety and health administration hazard communication standard in 29 CFR part 1910 Subpart Z, incorporated by reference in s. NR 484.03 (1).

(b) The solids content of a finishing material or contact adhesive by percent by weight.

(c) The density of the finishing material, adhesive or solvent.

Note: : Because the optimum analytical conditions under Method 311, used pursuant to s. NR 465.09 (1), vary by coating, the coating or adhesive supplier may also choose to include on the CPDS the optimum analytical conditions for analysis of the coating, adhesive or solvent using EPA Method 311. Information may include, but not be limited to, separation column, oven temperature, carrier gas, injection port temperature, extraction solvent and internal standard.

(10) "Cleaning operations" means operations in which organic HAP solvent is used to remove coating materials or adhesives from equipment used in wood furniture manufacturing operations.

(11) "Coating" means a protective, decorative or functional film applied in a thin layer to a surface. Coating materials include paints, topcoats, varnishes, sealers, stains, washcoats, basecoats, enamels, inks and temporary protective coatings. Adhesives and aerosol spray used for touch−up and repair are not considered coatings under this subchapter.

(12) "Coating solids" or "solids" means the part of the coating which remains after the coating is dried or cured.

(13) "Contact adhesive" means an adhesive that is applied to 2 substrates, dried and then mated under only enough pressure to provide sufficient contact so that the resulting bond is immediate and sufficiently strong to hold pieces together without further clamping, pressure or airing.

(14) "Continuous coater" means a finishing system that continuously applies finishing materials onto furniture parts moving along a conveyor. Examples of application methods that can be used with a continuous coater include spraying, curtain coating, roll coating, dip coating and flow coating.

(15) "Continuous compliance" means that the affected source is meeting the emission limitations and other requirements of the rule at all times and is fulfilling all monitoring and recordkeeping provisions of the rule in order to demonstrate compliance.

(16) "Control device" means any equipment that reduces the quantity of a pollutant that is emitted to the air.

Note: The device may destroy or secure the pollutant for subsequent recovery.

(17) "Control device efficiency" means the ratio of the amount of the pollutant reduced by a control device and the amount of the pollutant introduced to the control device.

(18) "Control system" means the combination of capture and control devices used to reduce emissions to the atmosphere.

(19) "Conventional air spray" means a spray coating method in which the coating is atomized by mixing it with compressed air and applied at an air pressure greater than 10 psig at the point of atomization.

Note: Airless and air assisted airless spray technologies are not conventional air spray because the coating is not atomized by mixing it with compressed air. Electrostatic spray technology is also not considered conventional air spray because an electrostatic charge is employed to attract the coating to the workpiece.

(20) "Day" means a period of 24 consecutive hours beginning at midnight local time, or beginning at a time consistent with a facility's operating schedule.

(21) "Enamel" means a coat of colored material, usually opaque, that is applied as a protective topcoat over a basecoat, primer or previously applied enamel coats. In some cases, another finishing material may be applied as a topcoat over the enamel.

(22) "Existing", when used to modify affected source, area source or source, means construction or reconstruction which is commenced before December 6, 1994.

(23) "Finishing material" means a coating used in the wood furniture industry. "Finishing material" includes stains, basecoats, washcoats, enamels, sealers and topcoats.

(24) "Finishing operation" means those operations in which a finishing material is applied to a substrate and is subsequently air−dried, cured in an oven or cured by radiation.

(25) "Foam adhesive" means a contact adhesive used for gluing foam to fabric, foam to foam and fabric to wood.

(26) "Gluing operations" means those operations in which adhesives are used to join components, for example, to apply a laminate to a wood substrate or foam to fabric.

(27) "Incidental wood furniture manufacturer" means a major source that is primarily engaged in the manufacture of products other than wood furniture or wood furniture components and that uses no more than 100 gallons per month of finishing material and no more than 100 gallons per month of adhesives in the manufacture of wood furniture or wood furniture components.

(28) "Material safety data sheet" or "MSDS" means the documentation required for hazardous chemicals by the occupational safety and health administration hazard communication standard in 29 CFR part 1910 Subpart Z, incorporated by reference in s. NR 484.03 (1), for a solvent, cleaning material, contact adhesive, coating or other material that identifies select reportable hazardous ingredients of the material, safety and health considerations, and handling procedures.

(29) "New", when used to modify affected source, area source or source, means construction or reconstruction which is commenced on or after December 6, 1994.

(30) "Nonporous substrate" means a surface that is impermeable to liquids. Examples include metal, rigid plastic, flexible vinyl and rubber.

(31) "Operating parameter value" means a minimum or maximum value established for a control device or process parameter that, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limit.

(32) "Organic HAP solvent" means a HAP that is a volatile organic liquid used for dissolving or dispersing constituents in a coating or contact adhesive, adjusting the viscosity of a coating or contact adhesive, or cleaning equipment. When used in a coating or contact adhesive, the organic HAP solvent evaporates during drying and does not become a part of the dried film.

(33) "Overall control efficiency" means the efficiency of a control system, calculated as the product of the capture and control device efficiencies, expressed as a percentage.

(34) "Sealer" means a finishing material used to seal the pores of a wood substrate before additional coats of finishing material are applied. "Sealer" does not include special purpose finishing materials that are used in some finishing systems to optimize aesthetics.

(35) "Stain" means any color coat having a solids content by weight of no more than 8.0% that is applied in single or multiple coats directly to the substrate. "Stain" includes nongrain raising stains, equalizer stains, prestains, sap stains, body stains, no−wipe stains, penetrating stains and toners.

(36) "Storage containers" means vessels or tanks, including mix equipment, used to hold finishing, gluing, cleaning or washoff materials.

(37) "Strippable spray booth coating" means a coating that meets all of the following:

(a) Is applied to a spray booth wall to provide a protective film to receive overspray during finishing operations.

(b) Is subsequently peeled off and disposed.

(c) Reduces or eliminates the need to use organic HAP solvents to clean spray booth walls.

(38) "Thinner" means a volatile liquid that is used to dilute coatings or contact adhesives to reduce viscosity, color strength and solids, or to modify drying conditions.

(39) "Topcoat" means the last film−building finishing material that is applied in a finishing system.

(40) "Touchup and repair" means the application of finishing materials to cover minor finishing imperfections.

(41) "VHAP" means any volatile hazardous air pollutant listed in Table 1 in this subchapter.

(42) "VHAP of potential concern" means any VHAP from the list in Table 5 in this subchapter.

(43) "Washcoat" means a transparent special purpose finishing material having a solids content by weight of 12.0% by weight or less.

Note: Washcoats are applied over initial stains to protect, to control color and to stiffen the wood fibers in order to aid sanding.

(44) "Washoff operations" means those operations in which organic HAP solvent is used to remove coating from wood furniture or a wood furniture component.

(45) "Wood furniture" means any product made of wood, a wood product such as rattan or wicker, or an engineered wood product such as particleboard that is manufactured under any of the following standard industrial classification codes, as described in the standard industrial classification manual, 1987, incorporated by reference in s. NR 484.05 (1): 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, 2599 or 5712.

(46) "Wood furniture component" means any part that is used in the manufacture of wood furniture. Examples include drawer sides, cabinet doors, seat cushions and laminated tops.

(47) "Wood furniture manufacturing operations" means the finishing, gluing, cleaning and washoff operations associated with the production of wood furniture or wood furniture components.

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01; CR 03−037: am. (intro.), (1), (11), (41), and (42) Register March 2004 No. 579, eff. 4−1−04.

NR 465.03 Symbols. The symbols used in this subchapter have the following meanings:

(1) "ac" means after the control system is installed and operated.

(2) "A_k" is the area of each natural draft opening k in a total enclosure, in square meters.

(3) "bc" means before control.

(4) "C_{aj}" is the concentration of VHAP in gas stream j exiting the control device, in parts per million by volume.

(5) "C_{bi}" is the concentration of VHAP in gas stream i entering the control device, in parts per million by volume.

(6) "C_c" is the VHAP content of a finishing material c in kilograms of VHAP per kilogram of coating solids (kg VHAP/kg solids), as supplied. Also given in pounds of VHAP per pound of coating solids (lb VHAP/lb solids).

(7) "C_{di}" is the concentration of VHAP in gas stream i entering the control device from the affected source, in parts per million by volume.

The Wisconsin Administrative Code on this web site is updated on the 1st day of each month, current as of that date. See also Are the Codes on this Website Official?

(8) "C_{fk}" is the concentration of VHAP in uncontrolled gas stream k emitted directly to the atmosphere from the affected source, in parts per million by volume.

(9) "E" is the emission limit achieved by an emission point or a set of emission points, in kg VHAP/kg solids (lb VHAP/lb solids).

(10) "F" is the control device efficiency, expressed as a fraction.

(11) "FV" is the average inward face velocity across all natural draft openings in a total enclosure, in meters per hour.

(12) "G" is the VHAP content of a contact adhesive, in kg VHAP/kg solids (lb VHAP/lb solids), as applied.

(13) "M_c" is the mass of solids in finishing material c used monthly, kg solids/month (lb solids/month).

(14) "N" is the capture efficiency, expressed as a fraction.

(15) "Q_{aj}" is the volumetric flow rate of gas stream j exiting the control device, in dry standard cubic meters per hour.

(16) "Q_{bi}" is the volumetric flow rate of gas stream i entering the control device, in dry standard cubic meters per hour.

(17) "Q_{di}" is the volumetric flow rate of gas stream i entering the control device from the emission point, in dry standard cubic meters per hour.

(18) "Q_{fk}" is the volumetric flow rate of uncontrolled gas stream k emitted directly to the atmosphere from the emission point, in dry standard cubic meters per hour.

(19) "$Q_{in\,i}$" is the volumetric flow rate of gas stream i entering the total enclosure through a forced makeup air duct, in standard cubic meters per hour, wet basis.

(20) "$Q_{out\,j}$" is the volumetric flow rate of gas stream j exiting the total enclosure through an exhaust duct or hood, in standard cubic meters per hour, wet basis.

(21) "R" is the overall efficiency of the control system, expressed as a percentage.

(22) "S" is the VHAP content of a solvent, expressed as a weight fraction, added to finishing materials.

(23) "W" is the amount of solvent, in kilograms (pounds), added to finishing materials during the monthly averaging period.

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01; CR 03−037: am. (intro.) Register March 2004 No. 579, eff. 4−1−04.

NR 465.04 Emission limits. (1) The owner or operator of an existing affected source shall do all of the following:

(a) Limit VHAP emissions from finishing operations to no more than the emission limitations for existing sources presented in Table 2 in this subchapter, using any of the compliance methods in s. NR 465.06 (1) (a). To determine VHAP emissions from a finishing material containing formaldehyde or styrene, the owner or operator of the affected source shall use the methods presented in s. NR 465.05 (12) (a) 2. for determining styrene and formaldehyde usage.

(b) Limit VHAP emissions from contact adhesives to no more than the following as appropriate:

1. 1.8 kg VHAP/kg solids (1.8 lb VHAP/lb solids), as applied, for foam adhesives used in products that meet the upholstered seating flammability requirements of California technical bulletin 116, 117 or 133, incorporated by reference in s. NR 484.06 (5), the business and institutional furniture manufacturers association's BIFMA X5.7−1991, incorporated by reference in s. NR 484.11 (7), upholstered furniture action council flammability test methods, incorporated by reference in s. NR 484.11 (10), or any similar requirements from local, state or federal fire regulatory agencies.

2. 1.0 kg VHAP/kg solids (1.0 lb VHAP/lb solids), as applied, for all other contact adhesives, including foam adhesives used in products that do not meet the standards in subd. 1., but excluding aerosol adhesives and excluding contact adhesives applied to nonporous substrates.

(c) Limit HAP emissions from strippable spray booth coatings by using coatings that contain no more than 0.8 kg VOC/kg solids (0.8 lb VOC/lb solids), as applied.

(2) The owner or operator of a new affected source shall do all of the following:

(a) Limit VHAP emissions from finishing operations to no more than the emission limitations for new sources presented in Table 2 in this subchapter using any of the compliance methods in s. NR 465.06 (2) (a). To determine VHAP emissions from a finishing material containing formaldehyde or styrene, the owner or operator of the affected source shall use the methods presented in s. NR 465.05 (12) (a) 2. for determining styrene and formaldehyde usage.

(b) Limit VHAP emissions from contact adhesives, excluding aerosol adhesives and excluding contact adhesives applied to nonporous substrates, to no more than 0.2 kg VHAP/kg solids (0.2 lb VHAP/lb solids), as applied, using either of the compliance methods in s. NR 465.06 (2) (b).

(c) Limit HAP emissions from strippable spray booth coatings by using coatings that contain no more than 0.8 kg VOC/kg solids (0.8 lb VOC/lb solids), as applied.

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01; CR 03−037: am. (1) (a) and (2) (a) Register March 2004 No. 579, eff. 4−1−04.

NR 465.05 Work practice standards. (1) WORK PRACTICE IMPLEMENTATION PLAN. The owner or operator of an affected source shall prepare and maintain a written work practice implementation plan that defines environmentally desirable work practices for each wood furniture manufacturing operation and addresses each of the work practice standards in subs. (2) to (12). The plan shall be developed no more than 60 days after the applicable compliance date in s. NR 465.055. The written work practice implementation plan shall be available for inspection by the department upon request. If the department determines that the work practice implementation plan does not adequately address each of the topics specified in subs. (2) to (12), or that the plan does not include sufficient mechanisms for ensuring that the work practice standards are being implemented, the department may require that the owner or operator of the affected source modify the plan. Revisions or modifications to the plan do not require a revision of a permit issued under ch. NR 407.

(2) OPERATOR TRAINING COURSE. The owner or operator of an affected source shall train all personnel, including contract personnel, who are involved in finishing, gluing, cleaning or washoff operations, use of manufacturing equipment or implementation of the requirements of this subchapter. Personnel hired on or after the compliance date of the standard shall be trained upon hiring. Personnel hired before the compliance date shall be trained within 6 months of the compliance date of the standard. All personnel shall be given refresher training annually. The owner or operator of an affected source shall maintain a copy of the training program with the work practice implementation plan. The training program shall include, at a minimum, all of the following:

(a) A list of all current personnel by name and job description that are required to be trained.

(b) An outline of the subjects to be covered in the initial and refresher training for each position or group of personnel.

(c) Lesson plans for courses to be given at the initial and the annual refresher training that include, at a minimum, appropriate application techniques, appropriate cleaning and washoff procedures, appropriate equipment setup and adjustment to minimize finishing material usage and overspray and appropriate management of cleanup wastes.

(d) A description of the methods to be used to demonstrate and document that personnel have successfully completed the initial and refresher training.

(3) INSPECTION AND MAINTENANCE PLAN. The owner or operator of an affected source shall prepare and maintain, with the work practice implementation plan, a written leak inspection and main-

tenance plan for all pumps, valves, flanges and other equipment used to transfer or apply coatings, adhesives or organic HAP solvents that specifies all of the following:

(a) An inspection schedule which specifies a minimum visual inspection frequency of once per month.

(b) Methods for documenting the date and results of each inspection and any repairs that were made.

(c) The timeframe between identifying the leak and making the repair, which adheres, at a minimum, to the following schedule:

1. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

2. Final repairs shall be made within 15 calendar days after the leak is detected, unless the leaking equipment is to be replaced by a new purchase, in which case repairs shall be completed within 3 months.

(4) CLEANING AND WASHOFF SOLVENT ACCOUNTING SYSTEM. The owner or operator of an affected source shall develop an organic HAP solvent accounting form to record all of the following:

(a) The quantity and type of organic HAP solvent used each month for washoff and cleaning operations.

(b) The number of pieces washed off, and the reason for the washoff.

(c) The quantity of spent organic HAP solvent generated from each washoff and cleaning operation each month, and whether it is reused onsite in a process other than cleaning or washoff or disposed of outside of the facility boundaries.

(5) CHEMICAL COMPOSITION OF CLEANING AND WASHOFF SOLVENTS. The owner or operator of an affected source may not use solvents for cleaning or washoff operations that contain any of the pollutants listed in Table 3 in this subchapter in concentrations that require inclusion on an MSDS in accordance with the occupational safety and health administration hazard communication standard in 29 CFR part 1910 Subpart Z, incorporated by reference in s. NR 484.03 (1).

(6) SPRAY BOOTH CLEANING. The owner or operator of an affected source may not use compounds containing more than 8.0% by weight of VOC for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, or metal or plastic filters. If the spray booth coating or other protective material used to cover the booth is being replaced, the owner or operator may not use more than 1.0 gallon of organic HAP solvent per booth to prepare the surface of the booth prior to applying the booth coating.

(7) STORAGE REQUIREMENTS. The owner or operator of an affected source shall store finishing, gluing, cleaning and washoff materials in closed containers.

(8) APPLICATION EQUIPMENT REQUIREMENTS. The owner or operator of an affected source may use conventional air spray guns to apply finishing materials only under any of the following circumstances:

(a) To apply finishing materials that have a VOC content no greater than 1.0 kg VOC/kg solids (1.0 lb VOC/lb solids), as applied.

(b) For touchup and repair under any of the following conditions:

1. The touchup and repair occurs after completion of the finishing operation.

2. The touchup and repair occurs after the application of stain and before the application of any other type of finishing material, and the materials used for touchup and repair are applied from a container that has a volume of no more than 2.0 gallons.

(c) When the spray gun is aimed and triggered automatically.

(d) When emissions from the finishing application station are directed to a control device.

(e) When the cumulative total usage of finishing materials applied with conventional air spray guns is no more than 5.0% of the total gallons of finishing material used during that semiannual period.

(f) When the conventional air gun is used to apply stain on a part for which it is technically or economically infeasible to use any other spray application technology. The owner or operator of an affected source shall demonstrate technical or economic infeasibility by submitting to the department a videotape, a technical report or other documentation that supports the affected source's claim of technical or economic infeasibility. The owner or operator shall use one or both of the following criteria to support a claim that no other spray application technology is technically or economically feasible:

1. The production speed is too high or the part shape is too complex for one operator to coat the part and the application station is not large enough to accommodate an additional operator.

2. The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.

(9) LINE CLEANING. The owner or operator of an affected source shall pump or drain all organic HAP solvent used for line cleaning into a container which shall be kept covered except when actively adding solvent to or removing solvent from the container.

(10) GUN CLEANING. The owner or operator of an affected source shall collect all organic HAP solvent used to clean spray guns into a container which shall be kept covered except when actively adding solvent to or removing solvent from the container.

(11) WASHOFF OPERATIONS. The owner or operator of an affected source shall control emissions from washoff operations by doing both of the following:

(a) Equipping any tank used for washoff operations with a cover and keeping the cover closed whenever the tank is not being used.

(b) Minimizing dripping by tilting or rotating the part to drain as much solvent as possible.

(12) FORMULATION ASSESSMENT PLAN FOR FINISHING OPERATIONS. (a) The owner or operator of an affected source shall prepare and maintain with the work practice implementation plan a formulation assessment plan that does all of the following:

1. Identifies VHAP from the list presented in Table 4 in this subchapter that are being used in finishing operations by the affected source.

2. Establishes a baseline level of usage by the affected source for each VHAP identified in subd. 1. The baseline usage level shall be the highest annual usage from 1994, 1995 or 1996, for each VHAP identified in subd. 1., or from another year approved by the department if annual usage data for those years is not available or if the affected source was not in operation during those years. For formaldehyde, the baseline level of usage shall be based on the amount of free formaldehyde present in the finishing material when it is applied. For styrene, the baseline level of usage shall be an estimate of unreacted styrene, which shall be calculated by multiplying the amount of styrene monomer in the finishing material, when it is applied, by a factor of 0.16. For sources using a control device to reduce emissions, an adjusted usage may be calculated based on the overall control efficiency of the control system.

3. Tracks the annual usage of each VHAP identified in subd. 1. that is present in amounts that require inclusion on an MSDS in accordance with the occupational safety and health administration hazard communication standard in 29 CFR part 1910 Subpart Z, incorporated by reference in s. NR 484.03 (1).

(b) If, after November 1998, the annual usage of the VHAP identified under par. (a) 1. exceeds the baseline level established under par. (a) 2., the owner or operator of the affected source shall provide a written notification to the department that describes the amount of the increase and explains the reasons for exceedance of

the baseline level. Any of the following explanations relieve the owner or operator from further action, unless the affected source is not in compliance with any state regulations or requirements for that VHAP:

1. The exceedance is no more than 15.0% above the baseline level.

2. Usage of the VHAP is below the de minimis level presented in Table 4 in this subchapter for that VHAP. For sources using a control device to reduce emissions, an adjusted usage based on the overall control efficiency of the control system may be calculated and used to demonstrate that the source does not exceed the de minimis level in Table 4 in this subchapter.

3. The affected source is in compliance with ch. NR 400 to 499 for the VHAP.

4. The source of the pollutant is a finishing material with a VOC content of no more than 1.0 kg VOC/kg solids (1.0 lb VOC/lb solids), as applied.

(c) If none of the explanations in par. (b) are the reason for the increase, the owner or operator shall confer with the department to discuss the reason for the increase and whether there are practical and reasonable technology−based solutions for reducing the usage. The evaluation of whether a technology is reasonable and practical shall be based on cost, quality and marketability of the product, whether the technology is being used successfully by other wood furniture manufacturing operations, or other criteria mutually agreed upon by the department and owner or operator. If there are no practical and reasonable solutions, the owner or operator need take no further action. If there are solutions, the owner or operator shall develop a plan to reduce usage of the pollutant to the extent feasible. The plan shall address the approach to be used to reduce emissions, a timetable for implementing the plan and a schedule for submitting notification of progress.

(d) If, after November 1998, the owner or operator of an affected source uses a VHAP of potential concern listed in Table 5 in this subchapter for which a baseline level has not been previously established, the baseline level shall be established as the de minimis level provided in Table 5 in this subchapter for that chemical. The owner or operator shall track the annual usage of each VHAP of potential concern identified in this paragraph that is present in amounts that require inclusion on an MSDS in accordance with the occupational safety and health administration hazard communication standard in 29 CFR part 1910 Subpart Z, incorporated by reference in s. NR 484.03 (1). If usage of the VHAP of potential concern exceeds the de minimis level listed in Table 5 in this subchapter for that chemical, the owner or operator shall provide an explanation to the department that documents the reason for exceedance of the de minimis level. If the explanation is not one of those listed in par. (b), the owner or operator shall follow the procedures in par. (c).

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01; CR 03−037: am. (2) (intro.), (5) (intro.) and (12) (a) 1., (b) 2., and (d) Register March 2004 No. 579, eff. 4−1−04.

NR 465.055 Compliance dates. (1) EXISTING SOURCES. The compliance date for existing affected sources that emit less than 50 tons per year of HAP in 1996 is December 7, 1998. The compliance date for existing affected sources that emit 50 tons or more of hazardous air pollutants in 1996 is November 21, 1997. The owner or operator of an existing area source that increases its emissions of, or its potential to emit, HAP such that the source becomes a major source that is subject to this subchapter shall comply with this subchapter one year after becoming a major source.

(2) NEW SOURCES. The compliance date for new affected sources is immediately upon startup or by December 7, 1995, whichever is later. The compliance date for new area sources that become major sources is immediately upon becoming a major source.

Note: Compliance dates are federally enforceable under 40 CFR 63.800 prior to the effective date of this section.

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01; CR 03−037: am. (1) Register March 2004 No. 579, eff. 4−1−04.

NR 465.06 Compliance methods and procedures. (1) EXISTING SOURCES. (a) *Finishing materials.* The owner or operator of an existing affected source shall comply with s. NR 465.04 (1) (a) by using any of the following methods:

1. Calculate the average VHAP content for all finishing materials used at the facility using Equation 1, and maintain a value of E no greater than 1.0.

$$E = (M_{c1}C_{c1} + M_{c2}C_{c2} + \ldots + M_{cn}C_{cn} + S_1W_1 + S_2W_2 + \ldots S_nW_n)/(M_{c1} + M_{c2} + \ldots + M_{cn})$$

(Equation 1)

2. Use compliant finishing materials according to the following criteria:

a. Demonstrate that each stain, sealer and topcoat has a VHAP content of no more than 1.0 kg VHAP/kg solids (1.0 lb VHAP/lb solids), as applied, and each thinner contains no more than 10.0% VHAP by weight by maintaining certified product data sheets for each coating and thinner.

b. Demonstrate that each washcoat, basecoat and enamel that is not formulated at the affected source by thinning another finishing material has a VHAP content of no more than 1.0 kg VHAP/kg solids (1.0 lb VHAP/lb solids), as applied, and each thinner contains no more than 10.0% VHAP by weight by maintaining certified product data sheets for each coating and thinner.

c. Demonstrate that each washcoat, basecoat and enamel that is formulated at the affected source is formulated using a finishing material containing no more than 1.0 kg VHAP/kg solids (1.0 lb VHAP/lb solids) and a thinner containing no more than 3.0% VHAP by weight.

3. Use a control system with an overall control efficiency (R) such that the value of E_{ac} in Equation 2 is no greater than 1.0. The value of E_{bc} in Equation 2 shall be calculated using Equation 1 in subd. 1.

$$R = [(E_{bc} - E_{ac})/E_{bc}](100)$$

(Equation 2)

4. Use any combination of the methods in subds. 1. to 3.

(b) *Foam adhesives.* The owner or operator of an existing affected source shall comply with s. NR 465.04 (1) (b) 1. by using foam adhesives with a VHAP content no greater than 1.8 kg VHAP/kg solids (1.8 lb VHAP/lb solids), as applied.

(c) *Other contact adhesives.* The owner or operator of an existing affected source shall comply with s. NR 465.04 (1) (b) 2. by using either of the following methods:

1. Use contact adhesives with a VHAP content no greater than 1.0 kg VHAP/kg solids (1.0 lb VHAP/lb solids), as applied.

2. Use a control system with an overall control efficiency (R) such that the value of G_{ac} in Equation 3 is no greater than 1.0.

$$R = [(G_{bc} - G_{ac})/G_{bc}](100)$$

(Equation 3)

(2) NEW SOURCES. (a) *Finishing materials.* The owner or operator of a new affected source shall comply with s. NR 465.04 (2) (a) by using any of the following methods:

1. Calculate the average VHAP content across all finishing materials used at the facility using Equation 1 in sub. (1) (a) 1., and maintain a value of E no greater than 0.8.

2. Use compliant finishing materials according to the following criteria:

a. Demonstrate that each sealer and topcoat has a VHAP content of no more than 0.8 kg VHAP/kg solids (0.8 lb VHAP/lb solids), as applied, each stain has a VHAP content of no more than 1.0 kg VHAP/kg solids (1.0 lb VHAP/lb solids), as applied, and each thinner contains no more than 10.0% VHAP by weight by maintaining certified product data sheets for each coating and thinner.

b. Demonstrate that each washcoat, basecoat and enamel that is not formulated at the affected source by thinning another finishing material has a VHAP content of no more than 0.8 kg VHAP/kg solids (0.8 lb VHAP/lb solids), as applied, and each thinner contains no more than 10.0% VHAP by weight by maintaining certified product data sheets for each coating and thinner.

c. Demonstrate that each washcoat, basecoat and enamel that is formulated at the affected source is formulated using a finishing material containing no more than 0.8 kg VHAP/kg solids (0.8 lb VHAP/lb solids) and a thinner containing no more than 3.0% VHAP by weight.

3. Use a control system with an overall control efficiency (R) such that the value of E_{ac} in Equation 4 is no greater than 0.8. The value of E_{bc} in Equation 4 shall be calculated using Equation 1 in sub. (1) (a) 1.

$$R = [(E_{bc} - E_{ac})/E_{bc}](100)$$

(Equation 4)

4. Use any combination of the methods in subds. 1. to 3.

(b) *Contact adhesives.* The owner or operator of a new affected source shall comply with s. NR 465.04 (2) (b) by using either of the following methods:

1. Use contact adhesives with a VHAP content no greater than 0.2 kg VHAP/kg solids (0.2 lb VHAP/lb solids), as applied.

2. Use a control system with an overall control efficiency (R) such that the value of G_{ac} in Equation 3 in sub. (1) (c) 2. is no greater than 0.2.

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01.

NR 465.07 Initial compliance demonstration. (1) FINISHING MATERIALS. The owner or operator of an affected source subject to the provisions of s. NR 465.04 (1) (a) or (2) (a) shall demonstrate initial compliance according to the following procedures as appropriate:

(a) If complying by using the methods in s. NR 465.06 (1) (a) 1. or (2) (a) 1., submit the results of the averaging calculation using Equation 1 in s. NR 465.06 (1) (a) 1. for the first month with the initial compliance status report required by s. NR 465.105 (2). The first month's calculation shall include data for the entire month in which the compliance date falls.

(b) If complying by using the methods s. NR 465.06 (1) (a) 2. or (2) (a) 2., state in the initial compliance status report under s. NR 465.105 (2) that compliant stains, washcoats, sealers, topcoats, basecoats, enamels and thinners, as applicable, are being used by the affected source.

(c) If complying by using the methods in s. NR 465.06 (1) (a) 2. or (2) (a) 2. and applying coatings using continuous coaters, do one of the following:

1. State in the initial compliance status report under s. NR 465.105 (2) that compliant coatings, as determined by the VHAP content of the coating in the reservoir and the VHAP content as calculated from records, and compliant thinners are being used.

2. State in the initial compliance status report under s. NR 465.105 (2) that compliant coatings, as determined by the VHAP content of the coating in the reservoir, are being used; the viscosity of the coating in the reservoir is being monitored; and compliant thinners are being used. The owner or operator shall also submit data that demonstrate that viscosity is an appropriate parameter for demonstrating compliance.

(d) If complying by using the methods in s. NR 465.06 (1) (a) 3. or (2) (a) 3., do all of the following:

1. Submit a monitoring plan that identifies each operating parameter to be monitored for the capture device and discusses why each parameter is appropriate for demonstrating continuous compliance.

2. Conduct an initial performance test as required under s. NR 460.06 using the procedures and test methods listed in ss. NR 460.06 and 465.09 (3) and (4).

3. Calculate the overall control efficiency (R) following the procedures in s. NR 465.09 (4).

4. Determine those operating conditions critical to determining compliance and establish one or more operating parameters that will ensure compliance with the standard. Operating parameters shall include the following:

a. For a thermal incinerator, minimum combustion temperature shall be the operating parameter.

b. For a catalytic incinerator equipped with a fixed catalyst bed, the minimum gas temperature both upstream and downstream of the catalyst bed shall be the operating parameters.

c. For a catalytic incinerator equipped with a fluidized catalyst bed, the minimum gas temperature upstream of the catalyst bed and the pressure drop across the catalyst bed shall be the operating parameters.

d. For a carbon adsorber, the total regeneration mass stream flow for each regeneration cycle and the carbon bed temperature after each regeneration, or the concentration level of organic compounds exiting the adsorber, shall be the operating parameters, unless the owner or operator requests and receives approval from the administrator to establish other operating parameters.

e. For a control device not listed in this subdivision, one or more operating parameter values shall be established as follows: The owner or operator shall submit, for the administrator's approval, a description of the device, test data verifying the performance of the device, and appropriate site−specific operating parameters that will be monitored to demonstrate continuous compliance with the standard.

(e) The value for each site−specific operating parameter in par. (d) 4. shall be calculated as the arithmetic average of the maximum or minimum operating parameter values, as appropriate, that demonstrate compliance with the standards, during the 3 test runs required by s. NR 465.09 (3) (a).

(2) CONTACT ADHESIVES. The owner or operator of an affected source subject to the provisions of s. NR 465.04 (1) (b) or (2) (b) shall demonstrate initial compliance according to the following procedures as appropriate:

(a) If complying by using the methods in s. NR 465.06 (1) (b), (c) 1. or (2) (b) 1., state in the initial compliance status report under s. NR 465.105 (2) that compliant contact adhesives are being used by the affected source.

(b) If complying by using the methods in s. NR 465.06 (1) (c) 2. or (2) (b) 2., do all of the following:

1. Submit a monitoring plan that identifies each operating parameter to be monitored for the capture device and discusses why each parameter is appropriate for demonstrating continuous compliance.

2. Conduct an initial performance test as required under s. NR 460.06 using the procedures and test methods listed in ss. NR 460.06 and 465.09 (3) and (4).

3. Calculate the overall control efficiency (R) following the procedures in s. NR 465.09 (4).

4. Determine those operating conditions critical to determining compliance and establish one or more operating parameters that will ensure compliance with the standard. Operating parameters shall include the following:

a. For a thermal incinerator, minimum combustion temperature shall be the operating parameter.

b. For a catalytic incinerator equipped with a fixed catalyst bed, the minimum gas temperature both upstream and downstream of the catalyst shall be the operating parameters.

c. For a catalytic incinerator equipped with a fluidized catalyst bed, the minimum gas temperature upstream of the catalyst bed and the pressure drop across the catalyst bed shall be the operating parameters.

(c) The value for each site−specific operating parameter in par. (b) 4. shall be calculated as the arithmetic average of the maximum or minimum operating values, as appropriate, that demonstrate compliance with the standards, during the 3 test runs required by s. NR 465.09 (3) (a).

(3) STRIPPABLE SPRAY BOOTH COATINGS. The owner or operator of an affected source subject to the provisions s. NR 465.04 (1) (c) or (2) (c) shall demonstrate initial compliance by stating in the initial compliance status report under s. NR 465.105 (2) that compliant strippable spray booth coatings are being used.

(4) WORK PRACTICE STANDARDS. The owner or operator of an affected source subject to the work practice standards in s. NR 465.05 shall demonstrate initial compliance by stating in the initial compliance status report under s. NR 465.105 (2) that the work practice implementation plan has been developed and procedures have been established for implementing the provisions of the plan.

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01; CR 03−037: am. (1) (a), (b) and (c) 1. and 2., (2) (a), (3) and (4) Register March 2004 No. 579, eff. 4−1−04.

NR 465.08 Continuous compliance demonstration. **(1)** FINISHING MATERIALS. The owner or operator of an affected source subject to the provisions of s. NR 465.04 (1) (a) or (2) (a) shall demonstrate continuous compliance according to the following procedures as appropriate:

(a) If complying by using the methods in s. NR 465.06 (1) (a) 1. or (2) (a) 1., submit the results of the averaging calculation using Equation 1 in s. NR 465.06 (1) (a) 1. for each month within that semiannual period, and submit a compliance certification in accord with s. NR 465.105 (3) which states that the value of E, as calculated using Equation 1 in s. NR 465.06 (1) (a) 1., is no greater than 1.0 for existing sources or 0.8 for new sources. An affected source is in violation of the standard if the value of E is greater than 1.0 for existing sources or 0.8 for new sources for any month. A violation of the monthly average is a separate violation of the standard for each day of operation during the month, unless the affected source can demonstrate through records that the violation of the monthly average can be attributed to a particular day or days during the period.

(b) If complying by using the methods in s. NR 465.06 (1) (a) 2. or (2) (a) 2., except as provided for in par. (c), submit a compliance certification in accord with s. NR 465.105 (3) which states that compliant stains, washcoats, sealers, topcoats, basecoats, enamels and thinners, as applicable, have been used each day in the semiannual reporting period or shall otherwise identify the periods of noncompliance and the reasons for noncompliance. An affected source is in violation of the standard whenever a noncompliant coating, as demonstrated by records or by a sample of the coating, is used.

(c) If complying by using the methods in s. NR 465.06 (1) (a) 2. or (2) (a) 2. and applying coatings using continuous coaters, do one of the following:

1. Use compliant coatings, as determined by the VHAP content of the coating in the reservoir and the VHAP content as calculated from records, use compliant thinners and submit a compliance certification in accord with s. NR 465.105 (3) which states that compliant coatings have been used each day in the semiannual reporting period, or shall otherwise identify the days of noncompliance and the reasons for noncompliance. An affected source is in violation of the standard whenever a noncompliant coating, as determined by records or by a sample of the coating, is used. Use of a noncompliant coating is a separate violation for each day the noncompliant coating is used.

2. Use compliant coatings, as determined by the VHAP content of the coating in the reservoir, use compliant thinners, maintain a viscosity of the coating in the reservoir that is no less than the viscosity of the initial coating by monitoring the viscosity with a viscosity meter or by testing the viscosity of the initial coating and retesting the coating in the reservoir each time solvent is added, maintain records of solvent additions and submit a compliance certification with the semiannual report required by s. NR 465.105 (3). The compliance certification shall be signed by a responsible official of the company that owns or operates the affected source and shall state that compliant coatings, as determined by the VHAP content of the coating in the reservoir, have been used each day in the semiannual reporting period. Additionally, the certification shall state that the viscosity of the coating in the reservoir has not been less than the viscosity of the initial coating, that is, the coating that is initially mixed and placed in the reservoir, for any day in the semiannual reporting period. An affected source is in violation of the standard when a sample of the as−applied coating exceeds the applicable limit established in s. NR 465.06 (1) (a) 2. or (2) (a) 2., as determined using Method 311, in 40 CFR part 63, Appendix A, incorporated by reference in s. NR 438.04, or the viscosity of the coating in the reservoir is less than the viscosity of the initial coating.

(d) If complying by using the methods in s. NR 465.06 (1) (a) 3. or (2) (a) 3., install, calibrate, maintain and operate equipment according to manufacturer's specifications to monitor each site−specific operating parameter established in accordance with s. NR 465.07 (2) (b) 1. The owner or operator shall also submit the excess emissions and continuous monitoring system performance report and summary report required by ss. NR 465.105 (4) and 460.09 (5). The appropriate monitoring equipment and related requirements include the following:

1. For an incinerator, a temperature monitoring device equipped with a continuous recorder shall be used as follows:

a. Where a thermal incinerator is used, the temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

b. Where a catalytic incinerator equipped with a fixed catalyst bed is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

c. Where a catalytic incinerator equipped with a fluidized catalyst bed is used, the temperature monitoring device shall be installed in the gas stream immediately before the bed. In addition, a pressure monitoring device shall be installed to determine the pressure drop across the catalyst bed. The pressure drop shall be measured monthly at a constant flow rate.

2. For a carbon adsorber, one of the following shall be used:

a. An integrating stream flow monitoring device, having an accuracy of ±10%, capable of recording the total regeneration stream mass flow for each regeneration cycle; and a carbon bed temperature monitoring device, having an accuracy of ±1% of the temperature being monitored or ±0.5 °C, whichever is greater, and capable of recording the carbon bed temperature after each regeneration and within 15 minutes of completing any cooling cycle.

b. An organic compound monitoring device, equipped with a continuous recorder, to indicate the concentration level of organic compounds exiting the carbon adsorber.

c. Any other monitoring device that has been approved by the administrator in accordance with s. NR 465.07 (1) (d) 4. d.

3. The owner or operator of an affected source may not operate a capture or control device at a daily average value greater than or less than, as appropriate, the operating parameter values. The daily average value shall be calculated as the average of all values for a monitored parameter recorded during the operating day.

4. The owner or operator of an affected source that is complying through the use of a catalytic incinerator equipped with a fluidized catalyst bed shall maintain a constant pressure drop, measured monthly, across the catalyst bed.

5. An owner or operator using a control device not listed in s. NR 465.07 (1) (d) shall submit, for the administrator's approval, a description of the device, test data verifying the performance of the device, and appropriate site−specific operating parameters that will be monitored to demonstrate continuous compliance with the standard.

(2) CONTACT ADHESIVES. The owner or operator of an affected source subject to the provisions of s. NR 465.04 (1) (b) or (2) (b) shall demonstrate continuous compliance according to the following procedures as appropriate:

(a) If complying by using the methods in s. NR 465.06 (1) (b), (c) 1. or (2) (b) 1., submit a compliance certification in accord with s. NR 465.105 (3) which states that compliant contact adhesives, including foam adhesives, have been used each day in the semiannual reporting period, or should otherwise identify each day noncompliant contact or foam adhesives were used. Each day a noncompliant contact or foam adhesive is used is a single violation of the standard.

(b) If complying by using the methods in s. NR 465.06 (1) (c) 2. or (2) (b) 2., install, calibrate, maintain and operate equipment according to the manufacturer's specifications to monitor each site−specific operating parameter established in accordance with s. NR 465.07 (2) (b) 1. The owner or operator shall also submit the excess emissions and continuous monitoring system performance report and summary report required by ss. NR 465.105 (4) and 460.09 (5). The appropriate monitoring equipment and related requirements include the following:

1. For an incinerator, a temperature monitoring device equipped with a continuous recorder shall be used as follows:

a. Where a thermal incinerator is used, the temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

b. Where a catalytic incinerator equipped with a fixed catalyst bed is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

c. Where a catalytic incinerator equipped with a fluidized catalyst bed is used, the temperature monitoring device shall be installed in the gas stream immediately before the bed. In addition, a pressure monitoring device shall be installed to measure the pressure drop across the catalyst bed. The pressure drop shall be measured monthly at a constant flow rate.

2. For a carbon adsorber, one of the following shall be used:

a. An integrating stream flow monitoring device having an accuracy of ±10%, capable of recording the total regeneration stream mass flow for each regeneration cycle; and a carbon bed temperature monitoring device, having an accuracy of ±1% of the temperature being monitored or ±0.5 °C, whichever is greater, and capable of recording the carbon bed temperature after each regeneration and within 15 minutes of completing any cooling cycle.

b. An organic compound monitoring device, equipped with a continuous recorder, to indicate the concentration level of organic compounds exiting the carbon adsorber.

c. Any other monitoring device that has been approved by the administrator in accordance with s. NR 465.07 (1) (d) 4. d.

3. The owner or operator of an affected source may not operate a capture or control device at a daily average value greater than or less than, as appropriate, the operating parameter values. The daily average value shall be calculated as the average of all values for a monitored parameter recorded during the operating day.

4. The owner or operator of an affected source that is complying through the use of a catalytic incinerator equipped with a fluidized catalyst bed shall maintain a constant pressure drop, measured monthly, across the catalyst bed.

5. An owner or operator using a control device not listed in s. NR 465.07 (1) (d) shall submit for the administrator's approval a description of the device, test data verifying the performance of the device, and appropriate site specific operating parameters that will be monitored to demonstrate continuous compliance with the standard.

(3) STRIPPABLE SPRAY BOOTH COATINGS. The owner or operator of an affected source subject to the provisions s. NR 465.04 (1) (c) or (2) (c) shall demonstrate continuous compliance by submitting a compliance certification in accord with s. NR 465.105 (3) which states that compliant strippable spray booth coatings have been used each day in the semiannual reporting period, or otherwise identifies each day noncompliant materials were used. Each day a noncompliant strippable booth coating is used is a single violation of the standard.

(4) WORK PRACTICE STANDARDS. The owner or operator of an affected source shall demonstrate continuous compliance with the work practice standards in s. NR 465.05 by submitting a compliance certification in accord with s. NR 465.105 (3) which states that the work practice implementation plan is being followed, or otherwise identifies the provisions of the plan that have not been implemented and each day the provisions were not implemented. During any period of time that an owner or operator is required to implement the provisions of the plan, each failure to implement an obligation under the plan during any particular day is a violation.

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01; CR 03−037: am. (1) (a), (b), (c) 1. and 2., (d) (intro.), (2) (a) and (b) (intro.), (3) and (4) Register March 2004 No. 579, eff. 4−1−04.

NR 465.09 Performance test methods. (1) (a) Except as provided in par. (c), the owner or operator of an affected source shall use Method 311 in 40 CFR part 63, Appendix A, incorporated by reference in s. NR 484.04 (25), in conjunction with formulation data, to determine the VHAP content of liquid coatings. Formulation data shall be used to identify VHAP present in the coating. Method 311 shall then be used to quantify those VHAP identified through formulation data. Method 311 may not be used to quantify HAP such as styrene and formaldehyde that are emitted during the cure.

(b) Except as provided in par. (c), the owner or operator of an affected source shall use Method 24 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), to determine the solids content by weight and the density of coatings.

(c) If it is demonstrated to the satisfaction of the administrator that a coating does not release VOC or HAP byproducts during the cure, batch formulation information shall be accepted for determining the VHAP or VOC content of the coating. The owner or operator of an affected source may request approval from the administrator to use an alternative method for determining the VHAP content of the coating. In the event of any inconsistency between Method 24 or Method 311 test data for a material and formulation data for the same material, the applicable test method shall govern unless, after consultation, the owner or operator can demonstrate to the satisfaction of the department that the formulation data are correct.

(2) An owner or operator demonstrating compliance in accordance with s. NR 465.07 (1) (d) or (2) (b) or 465.08 (1) (d) or (2) (b), or complying with any of the other emission limits of s. NR 465.04 by operating a capture and control device, shall determine the overall control efficiency of the control system (R) as the product of the capture and control device efficiency, using the test methods in sub. (3) and the procedures in sub. (4).

(3) When an initial compliance demonstration is required by s. NR 465.07 (1) (d) or (2) (b), the following test methods shall be used:

(a) Method 18 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used to determine the HAP concentration of gaseous air streams. The test shall consist of 3 separate runs, each lasting a minimum of 30 minutes.

(b) Method 1 or 1A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used for sample and velocity traverses.

(c) Method 2, 2A, 2C or 2D in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used to measure velocity and volumetric flow rates.

(d) Method 3 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used to analyze the exhaust gases.

(e) Method 4 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used to measure the moisture in the stack gas.

(f) Methods 2, 2A, 2C, 2D, 3 and 4 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be performed, as applicable, at least twice during each test period.

(4) An owner or operator of an affected source demonstrating compliance in accordance with s. NR 465.07 (1) (d) or (2) (b) shall perform a gaseous emission test using the following procedures:

(a) Construct the overall HAP emission reduction system so that all volumetric flow rates and total HAP emissions can be accurately determined by the applicable test methods specified in sub. (3).

(b) Determine capture efficiency from the affected emission points by capturing, venting and measuring all HAP emissions from the affected emission points. The owner or operator shall isolate affected emission points located in an area with other nonaffected gaseous emission sources from all other gaseous emission points and shall determine capture efficiency according to the following procedures as appropriate:

1. For temporary total enclosures, capture efficiency shall be determined according to Method 204, and as applicable, Methods 204A through 204F, in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

2. For permanent total enclosures built around the affected emissions points, and where the building that houses the process is used as the enclosure, capture efficiency shall be assumed to be 100% when the requirements for a permanent total enclosure in Method 204, in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), are satisfied. Notwithstanding par. (e), when a permanent total enclosure is confirmed through Method 204, a value of one shall be used for N when determining R under sub. (5), (6), (7) or (8).

3. Use any alternative protocol and test method provided they meet either the requirements of the data quality objective (DQO) approach or the lower confidence level (LCL) approach in 40 CFR part 63, Subpart KK, Appendix A, incorporated by reference in s. NR 484.04 (24).

4. Shut down all nonaffected HAP emission points and continue to exhaust fugitive emissions from the affected emission points through any building ventilation system and other room exhausts such as drying ovens. All exhaust air shall be vented through stacks suitable for testing.

5. Use another methodology approved by the administrator provided it complies with the criteria for acceptance under Method 301 in 40 CFR part 63, Appendix A, incorporated by reference in s. NR 484.04 (25).

(c) Operate the control device with all affected emission points that will subsequently be delivered to the control device connected and operating at maximum production rate.

(d) Determine the efficiency (F) of the control device using the following equation:

$$F = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{p} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi}}$$

(Equation 5)

(e) Determine the efficiency (N) of the capture system using the following equation:

$$N = \frac{\sum_{i=1}^{n} Q_{di} C_{di}}{\sum_{i=1}^{n} Q_{di} C_{di} + \sum_{k=1}^{p} Q_{fk} C_{fk}}$$

(Equation 6)

(5) For an owner or operator complying with s. NR 465.04 (1) (a) in accordance with s. NR 465.06 (1) (a) 3., compliance is demonstrated if the product of (F x N)(100) yields a value (R) such that the value of E_{ac} in Equation 2 in s. NR 465.06 (1) (a) 3. is no greater than 1.0.

(6) For an owner or operator complying s. NR 465.04 (2) (a) in accordance with s. NR 465.06 (2) (a) 3., compliance is demonstrated if the product of (F x N)(100) yields a value (R) such that the value of E_{ac} in Equation 4 in s. NR 465.06 (2) (a) 3. is no greater than 0.8.

(7) For an owner or operator complying with s. NR 465.04 (1) (b) 2. in accordance with s. NR 465.06 (1) (c) 2., compliance is demonstrated if the product of (F x N)(100) yields a value (R) such that the value of G_{ac} in Equation 3 in s. NR 465.06 (1) (c) 2. is no greater than 1.0.

(8) For an owner or operator complying with s. NR 465.04 (2) (b) in accordance with s. NR 465.06 (2) (b) 2., compliance is demonstrated if the product of (F x N)(100) yields a value (R) such that the value of G_{ac} in Equation 3 s. NR 465.06 (1) (c) 2. is no greater than 0.2.

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01; reprinted to correct error in (4) (d) and (e), Register October 2001 No. 550.

NR 465.10 Recordkeeping requirements. (1) The owner or operator of an affected source shall fulfill all recordkeeping requirements of s. NR 460.09 according to the applicability criteria in s. NR 465.01 (1) (e).

(2) The owner or operator of an affected source subject to the emission limits in s. NR 465.04 shall maintain records of the following as appropriate:

(a) A certified product data sheet for each finishing material, thinner, contact adhesive and strippable spray booth coating subject to the emission limits in s. NR 465.04.

(b) The VHAP content, in kg VHAP/kg solids (lb VHAP/lb solids), as applied, of each finishing material and contact adhesive subject to the emission limits in s. NR 465.04.

(c) The VOC content, in kg VOC/kg solids (lb VOC/lb solids), as applied, of each strippable spray booth coating subject to the emission limits in s. NR 465.04 (1) (c) or (2) (c).

(3) The owner or operator of an affected source following the compliance method in s. NR 465.06 (1) (a) 1. or (2) (a) 1. shall maintain copies of the averaging calculation for each month following the compliance date, as well as the data on the quantity of coatings and thinners used that is necessary to support the calculation of E in Equation 1 in s. NR 465.06 (1) (a) 1.

(4) The owner or operator of an affected source following the compliance procedures of s. NR 465.07 (1) (c) 2. or 465.08 (1) (c) 2. shall maintain the records required by s. NR 465.10 (2) as well as records of all of the following:

(a) Solvent and coating additions to the continuous coater reservoir.

(b) Viscosity measurements.

(c) Data demonstrating that viscosity is an appropriate parameter for demonstrating compliance.

(5) The owner or operator of an affected source subject to the work practice standards in s. NR 465.05 shall maintain onsite a work practice implementation plan and all records associated with fulfilling the requirements of that plan, including, but not limited to, all of the following:

(a) Records demonstrating that the operator training program required by s. NR 465.05 (2) is in place.

(b) Records collected in accordance with the inspection and maintenance plan required by s. NR 465.05 (3).

(c) Records associated with the cleaning solvent accounting system required by s. NR 465.05 (4).

(d) Records associated with the limitation on the use of conventional air spray guns showing total finishing material usage and the percentage of finishing materials applied with conventional air spray guns for each semiannual period as required by s. NR 465.05 (8) (e).

(e) Records associated with the formulation assessment plan required by s. NR 465.05 (12).

(f) Copies of documentation such as logs developed to demonstrate that the other provisions of the work practice implementation plan are followed.

(6) The owner or operator of an affected source following the compliance method of s. NR 465.07 (1) (d) or 465.08 (1) (d) shall maintain copies of the calculations demonstrating that the overall control efficiency (R) of the control system results in the value of E_{ac} required by Equation 2 in s. NR 465.06 (1) (a) 3. or Equation 4 in s. NR 465.06 (2) (a) 3., records of the operating parameter values, and copies of the semiannual compliance reports required by s. NR 465.105 (4).

(7) The owner or operator of an affected source following the compliance method of s. NR 465.07 (2) (b) or 465.08 (2) (b) shall maintain copies of the calculations demonstrating that the overall control efficiency (R) of the control system results in the applicable value of G_{ac} calculated using Equation 3 in s. NR 465.06 (1) (c) 2., records of the operating parameter values, and copies of the semiannual compliance reports required by s. NR 465.105 (4).

(8) The owner or operator of an affected source subject to the emission limits in s. NR 465.04 and following the compliance provisions of s. NR 465.07 (1) (a) to (c), (2) (a), (3) or (4) or 465.08 (1) (a) to (c), (2) (a), (3) or (4) shall maintain records of the compliance certifications submitted in accordance with s. NR 465.105 (3) for each semiannual period following the compliance date.

(9) The owner or operator of an affected source shall maintain records of all other information submitted with the compliance status report required by ss. NR 460.08 (8) and 465.105 (2) and the semiannual reports required by s. NR 465.105 (3).

(10) The owner or operator of an affected source shall maintain all records in accordance with the requirements of s. NR 460.09 (2) (a).

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01.

NR 465.105 Reporting requirements. (1) The owner or operator of an affected source subject to this subchapter shall fulfill all reporting requirements of ss. NR 460.06 to 460.09 according to the applicability criteria in s. NR 465.01 (1) (e).

(2) The owner or operator of an affected source demonstrating compliance in accordance with s. NR 465.07 (1) (a) to (c), (2) (a), (3) or (4) shall submit the compliance status report required by s. NR 460.08 (8) no later than 60 days after the compliance date. The report shall include the information required by s. NR 465.07 (1) (a) to (c), (2) (a), (3) or (4).

(3) The owner or operator of an affected source demonstrating compliance in accordance with s. NR 465.08 (1) (a) to (c), (2) (a), (3) or (4) shall submit a report covering the previous 6 months of wood furniture manufacturing operations as follows:

(a) The first report shall be submitted no later than 30 calendar days after the end of the first 6−month period following the compliance date.

(b) Subsequent reports shall be submitted no later than 30 calendar days after the end of each 6−month period following the first report.

(c) The semiannual reports shall include the information required by s. NR 465.08 (1) (a) to (c), (2) (a), (3) and (4), a compliance certification stating whether the affected source was in compliance or noncompliance, and, if the affected source was in noncompliance, the measures taken to bring the affected source into compliance. The compliance certification shall be signed by a responsible official of the company that owns or operates the affected source.

(4) The owner or operator of an affected source demonstrating compliance in accordance with s. NR 465.08 (1) (d) or (2) (b) shall submit the excess emissions and continuous monitoring system performance report and summary report required by s. NR 460.09 (5). The report shall include the monitored operating parameter values required by s. NR 465.08 (1) (d) or (2) (b). If the source experiences excess emissions, the report shall be submitted quarterly for at least one year after the excess emissions occur and until a request to reduce reporting frequency is approved, as indicated in s. NR 460.09 (5) (c) 2. If no excess emissions occur, the report shall be submitted semiannually.

(5) The owner or operator of an affected source required to provide a written notification under s. NR 465.05 (12) (b) shall include in the notification one or more statements that explains the reasons for the usage increase. The notification shall be submitted no later than 30 calendar days after the end of the annual period in which the usage increase occurred.

History: CR 00−160: cr. Register August 2001 No. 548, eff. 9−1−01; Correction in (4) made under s. 13.93 (2m) (b) 7. Stats., Register March 2004 No. 579; CR 03−037: renum. NR 465.11 to be NR 465.105 and am. (1) Register March 2004 No. 579, eff. 4−1−04.

The Wisconsin Administrative Code on this web site is updated on the 1st day of each month, current as of that date. See also Are the Codes on this Website Official?

Table 1
List of Volatile Hazardous Air Pollutants

Chemical Name	CAS Number
Acetaldehyde	75070
Acetamide	60355
Acetonitrile	75058
Acetophenone	98862
2−Acetylaminofluorine	53963
Acrolein	107028
Acrylamide	79061
Acrylic acid	79107
Acrylonitrile	107131
Allyl chloride	107051
4−Aminobiphenyl	92671
Aniline	62533
o−Anisidine	90040
Benzene	71432
Benzidine	92875
Benzotrichloride	98077
Benzyl chloride	100447
Biphenyl	92524
Bis(2−ethylhexyl) phthalate (DEHP)	117817
Bis(chloromethyl) ether	542881
Bromoform	75252
1,3−Butadiene	106990
Carbon disulfide	75150
Carbon tetrachloride	56235
Carbonyl sulfide	463581
Catechol	120809
Chloroacetic acid	79118
2−Chloroacetophenone	532274
Chlorobenzene	108907
Chloroform	67663
Chloromethyl methyl ether	107302
Chloroprene	126998
Cresols (isomers and mixture)	1319773
o−Cresol	95487
m−Cresol	108394
p−Cresol	106445
Cumene	98828
2,4−D (2,4−Dichlorophenoxyacetic acid, including salts and esters)	94757
DDE (1,1−Dichloro−2,2−bis(p−chlorophenyl) ethylene)	72559
Diazomethane	334883
Dibenzofuran	132649
1,2−Dibromo−3−chloropropane	96128
Dibutylphthalate	84742
1,4−Dichlorobenzene	106467
3,3'−Dichlorobenzidine	91941
Dichloroethyl ether (Bis(2−chloroethyl)ether)	111444
1,3−Dichloropropene	542756
Diethanolamine	111422
N,N−Dimethylaniline	121697
Diethyl sulfate	64675
3,3'−Dimethoxybenzidine	119904
4−Dimethylaminoazobenzene	60117
3,3'−Dimethylbenzidine	119937
Dimethylcarbamoyl chloride	79447
N,N−Dimethylformamide	68122
1,1−Dimethylhydrazine	57147
Dimethyl phthalate	131113
Dimethyl sulfate	77781
4,6−Dinitro−o−cresol, and salts	534521
2,4−Dinitrophenol	51285
2,4−Dinitrotoluene	121142
1,4−Dioxane (1,4−Diethyleneoxide)	123911
1,2−Diphenylhydrazine	122667
Epichlorohydrin (1−Chloro−2,3−epoxypropane)	106898
1,2−Epoxybutane	106887
Ethyl acrylate	140885
Ethylbenzene	100414
Ethyl carbamate (Urethane)	51796
Ethyl chloride (Chloroethane)	75003
Ethylene dibromide (Dibromoethane)	106934
Ethylene dichloride (1,2−Dichloroethane)	107062
Ethylene glycol	107211
Ethylene oxide	75218
Ethylenethiourea	96457
Ethylidene dichloride (1,1−Dichloroethane)	75343
Formaldehyde	50000
Glycol ethers[a]	
Hexachlorobenzene	118741
Hexachloro−1,3−butadiene	87683
Hexamethylene−1,6−diisocyanate	822060
Hexamethylphosphoramide	680319
Hexane	110543
Hydrazine	302012
Hydroquinone	123319
Isophorone	78591
Maleic anhydride	108316
Methanol	67561
Methyl bromide (Bromomethane)	74839
Methyl chloride (Chloromethane)	74873
Methyl chloroform (1,1,1−Trichloroethane)	71556
Methyl ethyl ketone (2−Butanone)	78933
Methylhydrazine	60344

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Table 1 (Continued)
List of Volatile Hazardous Air Pollutants

Chemical Name	CAS Number
Hexachloroethane	67721
Methyl iodide (Iodomethane)	74884
Methyl isobutyl ketone (Hexone)	108101
Methyl isocyanate	624839
Methyl methacrylate	80626
Methyl tert−butyl ether	1634044
4,4'−Methylene bis(2−chloroaniline)	101144
Methylene chloride (Dichloromethane)	75092
4,4'−Methylenediphenyl diisocyanate (MDI)	101688
4,4'−Methylenedianiline	101779
Naphthalene	91203
Nitrobenzene	98953
4−Nitrobiphenyl	92933
4−Nitrophenol	100027
2−Nitropropane	79469
N−Nitroso−N−methylurea	684935
N−Nitrosodimethylamine	62759
N−Nitrosomorpholine	59892
Phenol	108952
p−Phenylenediamine	106503
Phosgene	75445
Phthalic anhydride	85449
Polychlorinated biphenyls (Aroclors)	1336363
Polycyclic Organic Matter[b]	
1,3−Propane sultone	1120714
β−Propiolactone	57578
Propionaldehyde	123386
Propoxur (Baygon)	114261
Propylene dichloride (1,2−Dichloropropane)	78875
Propylene oxide	75569
1,2−Propylenimine (2−Methyl aziridine)	75558
Quinone	106514
Styrene	100425
Styrene oxide	96093
2,3,7,8−Tetrachlorodibenzo−p−dioxin	1746016
1,1,2,2−Tetrachloroethane	79345
Tetrachloroethylene (Perchloroethylene)	127184
Toluene	108883
2,4−Toluenediamine	95807
Toluene−2,4−diisocyanate	584849
o−Toluidine	95534
1,2,4−Trichlorobenzene	120821
1,1,2−Trichloroethane	79005
Trichloroethylene	79016
2,4,5−Trichlorophenol	95954
2,4,6−Trichlorophenol	88062
Triethylamine	121448
Trifluralin	1582098
2,2,4−Trimethylpentane	540841
Vinyl acetate	108054
Vinyl bromide	593602
Vinyl chloride	75014
Vinylidene chloride (1,1−Dichloroethylene)	75354
Xylenes (isomers and mixture)	1330207
o−Xylene	95476
m−Xylene	108383
p−Xylene	106423

[a]Includes mono− and di−ethers of ethylene glycol, diethylene glycols and triethylene glycol; $R-(OCH_2CH_2)_n-OR'$ where:

n = 1, 2 or 3

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure: $R-(OCH_2CH_2)_n-OH$. Polymers are excluded from the glycol category.

[b]Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 °C.

Table 2
Summary of Emission Limits and Compliance Demonstration Methods

Emission Point	Existing Source	New Source
(1) Finishing Operations:		
(a) Achieve a monthly weighted average VHAP content across all finishing materials (maximum kg VHAP/kg solids [lb VHAP/lb solids], as applied).	1.0	0.8
(b) Use compliant finishing materials (maximum kg VHAP/kg solids [lb VHAP/lb solids], as applied):		
1. Stains	[a]1.0	[a]1.0
2. Sealers	[a]1.0	[a]0.8
3. Topcoats	[a]1.0	[a]0.8
4. Washcoats	[b]1.0	[b]0.8
5. Basecoats	[b]1.0	[b]0.8
6. Enamels	[b]1.0	[b]0.8
(c) Use a control device.	[c]1.0	[c]0.8
(d) Use any combination of (a), (b) and (c).	1.0	0.8
(2) Cleaning Operation. Use compliant strippable spray booth coatings (maximum kg VOC/kg solids [lb VOC/lb solids], as applied)	0.8	0.8
(3) Contact Adhesives:		
(a) Use compliant contact adhesives (maximum kg VHAP/kg solids [lb VHAP/lb solids], as applied):		
1. For aerosol adhesive, and for contact adhesives applied to nonporous substrates.	[d]NA	[d]NA
2. For foam adhesives used in products that meet flammability requirements.	1.8	0.2
3. For all other contact adhesives.	1.0	0.2
(b) Use a control device	[e]1.0	[e]0.2

[a] Any thinner used onsite shall contain no more than 10.0% VHAP by weight.

[b] Any thinner used onsite shall contain no more than 10.0% VHAP by weight if the finishing material is purchased premade, that is, if it is not formulated onsite by thinning other finishing materials, i.e., thinning a sealer to use as a washcoat. If formulated onsite, these shall be formulated using compliant finishing materials, i.e., those that meet the limits specified in this table, and thinners containing no more than 3.0% VHAP by weight.

[c] The control device shall be operated at an efficiency that is equivalent to no greater than 1.0 pound (or 0.8 pounds) of VHAP being emitted from the affected emission source per pound of solids used.

[d] There is no limit on the VHAP content of these adhesives.

[e] The control device shall be operated at an efficiency that is equivalent to no greater than 1.0 pounds (or 0.2 pounds) of VHAP being emitted from the affected emission source per pound of solids used.

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Table 3
Pollutants Excluded From Use in Cleaning and Washoff Solvents

Chemical Name	CAS Number
Acetaldehyde	75070
Acetamide	60355
2−Acetylaminofluorine	53963
Acrylamide	79061
Acrylonitrile	107131
4−Aminobiphenyl	92671
Aniline	62533
o−Anisidine	90040
Antimony trioxide	1309644
Arsenic and inorganic arsenic compounds	7440382
Benz(c)acridine	225514
Benzene	71432
Benzidine	92875
Benzo(a)anthracene	56553
Benzo(b)fluoranthene	205992
Benzo(a)pyrene	50328
Beryllium compounds	7440417
Beryllium salts	
Bis(chloromethyl)ether	542881
Bis(2−ethylhexyl)phthalate (DEHP)	117817
Bromoform	75252
1,3−Butadiene	106990
Cadmium compounds	
Captan	133062
Carbon tetrachloride	56235
Chlordane	57749
Chlorobenzilate	510156
Chloroform	67663
Chromium compounds (hexavalent)	
Chrysene	218019
Coke oven emissions	
DDE (1,1−Dichloro−2,2−bis(p−chlorophenyl) ethylene) 2559	72559
Dibenz(ah)anthracene	53703
1,2:7,8−Dibenzopyrene	189559
1,2−Dibromo−3−chloropropane	96128
1,4−Dichlorobenzene(p)	106467
3,3'−Dichlorobenzidine	53963
Dichloroethyl ether (Bis(2−chloroethyl) ether)	111444
1,3−Dichloropropene	542756
Dichlorvos	62737
Diethyl sulfate	64675
3,3'−Dimethoxybenzidine	119904
Dimethyl aminoazobenzene	60117
7,12−Dimethylbenz(a)anthracene	57976
3,3'−Dimethyl benzidine	119937
Dimethyl carbamoyl chloride	79447
Dimethyl formamide	68122
1,1−Dimethyl hydrazine	57147
2,4−Dinitrotoluene	121142
1,4−Dioxane (1,4−Diethyleneoxide)	123911
1,2−Diphenylhydrazine	122667
Epichlorohydrin	106898
Ethyl acrylate	140885
Ethyl carbamate (Urethane)	51796
Ethylene dibromide (1,2−Dibromoethane)	106934
Ethylene dichloride (1,2−Dichloroethane)	107062
Ethylene oxide	75218
Ethylene thiourea	96457
Formaldehyde	50000
Heptachlor	76448
Hexachlorobenzene	118741
Hexamethylphosphoramide	680319
Hydrazine	302012
Indeno(1,2,3−cd)pyrene	193395
Lindane (Hexachlorcyclohexane, gamma)	58899
Methyl hydrazine	60344
Methylene chloride (Dichloromethane)	75092
4,4'−Methylenedianiline	101779
Nickel refinery dust	
Nickel subsulfide	12035722
2−Nitropropane	79469
N−Nitrosodimethylamine	62759
N−Nitroso−N−methylurea	684935
N−Nitrosomorpholine	59892
Pentachlorophenol	87865
Polychlorinated biphenyls (Aroclors)	1336363
1,3−Propane sultone	1120714
Propoxur	114261
Propylene dichloride (1,2−Dichloropropane)	78875
Propylene oxide	75569
1,2−Propylenimine (2−Methyl aziridine)	75558
Selenium sulfide (mono− and di−)	7488564
Styrene oxide	96093
2,3,7,8−Tetrachlorodibenzo−p−dioxin	1746016
2,4−Toluene diamine	95807
o−Toluidine	95534
Toxaphene (Chlorinated camphene)	8001352
2,4,6−Trichlorophenol	88062
Vinyl bromide (Bromoethene)	593602
Vinyl chloride	75014

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Table 4
List of VHAP of Potential Concern Identified by Industry

Chemical Name	CAS Number	de minimis (tons/yr)
Diethanolamine	111422	5.0
Dimethyl formamide	68122	1.0
2−Ethoxyethyl acetate	111159	10.0
Formaldehyde	50000	0.2
Isophorone	78591	0.7
2−Methoxyethanol	109864	10.0
Methylene chloride	75092	4.0
2−Nitropropane	79469	1.0
Phenol	108952	0.1
Styrene monomer	100425	1.0

Table 5
VHAP of Potential Concern

Chemical Name	CAS Number	de minimis (tons/yr)*
Acetaldehyde	75070	0.9
Acetamine	60355	1.0
Acetophenone	98862	1.0
2−Acetylaminofluorine	53963	0.0005
Acrolein	107028	0.04
Acrylamide	79061	0.002
Acrylonitrile	107131	0.03
Allyl chloride	107051	1.0
4−Aminobipheny	l92671	1.0
Aniline	62533	0.1
o−Anisidine	90040	1.0
Benz(c)acridine	225514	0.01
Benzene	71432	0.2
Benzidine	92875	0.00003
Benzo(a)anthracene	56553	0.01
Benzo(b)fluoranthene	205992	0.01
Benzo(a)pyrene	50328	0.001
Benzotrichloride	98077	0.0006
Benzyl chloride	100447	0.04
Bis(chloromethyl) ether	542881	0.00003
Bis(2−ethylhexyl) phthalate (DEHP)	117817	0.5
Bromoform	75252	2.0
1,3−Butadiene	106990	0.007
Captan	133062	2.0
Carbon disulfide	75150	1.0
Carbon tetrachloride	56235	0.1
Carbonyl sulfide	463581	5.0
Catechol	120809	5.0
Chloramben	133904	1.0
Chlordane	57749	0.005
Chloroacetic acid	79118	0.1
2−Chloroacetophenone	532274	0.06
Chlorobenzilate	510156	0.04
Chloroform	67663	0.09
Chloromethyl methyl ether	107302	0.1
Chloroprene	126998	1.0
Chrysene	218019	0.01
Cobalt carbonyl	10210681	0.1
m−Cresol	108394	1.0
o−Cresol	95487	1.0
p−Cresol	106445	1.0
Cresols/Cresylic acid (isomers and mixture)	1319773	1.0
DDE (1,1−Dichloro−2,2−bis (p−chlorophenyl) ethylene	72559	0.01
Diazomethane	334883	1.0
Dibenz(ah)anthracene	53703	0.01
Dibenzofurans	132649	5.0
1,2:7,8−Dibenzopyrene	189559	0.01
1,2−Dibromo−3−chloropropane	96128	0.001
1,4−Dichlorobenzene(p)	106467	0.3
3,3'−Dichlorobenzidine	91941	0.02
Dichloroethyl ether (Bis(2−chloroethyl)ether)	111444	0.006
1,3−Dichloropropene	542756	1.0
Dichlorvos	62737	0.02
Diethanolamine	111422	5.0
Diethyl sulfate	64675	1.0
3,3'−Dimethoxybenzidine	119904	0.01
Dimethyl aminoazobenzene	60117	1.0
N,N−Dimethylaniline	121697	1.0
7,12−Dimethylbenz(a)anthracene	57976	0.01
3,3'−Dimethyl benzidine	119937	0.001
Dimethyl carbamoyl chloride	79447	0.002
Dimethyl formamide	68122	1.0
1,1−Dimethyl hydrazine	57147	0.0008
Dimethyl sulfate	77781	0.1
4,6−Dinitro−o−cresol, and salts	534521	0.1
2,4−Dinitrophenol	51285	1.0
2,4−Dinitrotoluene	121142	0.002
1,4−Dioxane (1,4−Diethyleneoxide)	123911	0.6
1,2−Diphenylhydrazine	122667	0.009
Epichlorohydrin	106898	2.0
1,2−Epoxybutane	106887	1.0
Ethyl acrylate	140885	0.1
Ethyl carbamate (Urethane)	51796	0.08
Ethylene dibromide (1,2−Dibromoethane)	106934	0.01

The Wisconsin Administrative Code on this web site is updated on the 1st day of each month, current as of that date. See also Are the Codes on this Website Official?

Table 5 (Continued)
VHAP of Potential Concern

Chemical Name	CAS Number	de minimis (tons/yr)
Ethylene dichloride (1,2−Dichloroethane)	107062	0.08
Ethylene imine	151564	0.0003
Ethylene oxide	75218	0.09
Ethylene thiourea	96457	0.06
Ethylidene dichloride (1,1−Dichloroethane)	75343	1.0
Fluomine	62207765	0.1
Formaldehyde	50000	0.2
Glycol ethers[a]		5.0
Heptachlor	76448	0.002
Hexachlorobenzene	118741	0.004
Hexachlorobutadiene	87683	0.09
Hexachlorocyclopentadiene	77474	0.1
Hexachloroethane	67721	0.5
Hexamethylene−1,6−diisocyanate	822060	5.0
Hexamethylphosphoramide	680319	0.01
Hydroquinone	123319	1.0
Indeno(1,2,3−cd)pyrene	193395	0.01
Isophorone	78591	0.07
Lindane (Hexachlorocyclohexane, gamma)	58899	0.005
Maleic anhydride	108316	1.0
Mercury, (acetato−o)phenyl−(Phenylmercuric Acetate)	62384	0.01
2−Methoxy ethanol	109864	10.0
Methyl bromide (Bromomethane)	74839	10.0
Methyl chloride (Chloromethane)	74873	1.0
Methylcyclopentadienyl manganese	12108133	0.1
4,4'−Methylene bis(2−chloroaniline)	101144	0.02
Methylene chloride (Dichloromethane)	75092	4.0
4,4'−Methylenedianiline	101779	1.0
Methylene diphenyl diisocyanate	101688	0.1
Methyl hydrazine	60344	0.006
Methyl iodide (Iodomethane)	74884	1.0
Methyl isocyanate	624839	0.1
Nickel carbonyl	13463393	0.1
Nitrobenzene	98953	1.0
4−Nitrobiphenyl	92933	1.0
4−Nitrophenol	100027	5.0
2−Nitropropane	79469	1.0
N−Nitrosodimethylamine	62759	0.0001
N−Nitroso−N−methylurea	684935	0.00002
N−Nitrosomorpholine	59892	1.0
Parathion	56382	0.1
Pentachloronitrobenzene (Quintobenzene)	82688	0.03
Pentachlorophenol	87865	0.07
Phenol	108952	0.1
Phthalic anhydride	85449	5.0
Polychlorinated biphenyls (Aroclors)	1336363	0.0009
Polycyclic organic matter[b]		0.01
1,3−Propane sultone	1120714	0.003
β−Propiolactone	57578	0.1
Propionaldehyde	123386	5.0
Propoxur	114261	2.0
Propylene dichloride (1,2−Dichloropropane)	78875	0.1
Propylene oxide	75569	0.5
1,2−Propylenimine (2−Methy aziridine)	75558	l0.0003
Quinoline	91225	0.0006
Quinone	106514	5.0
Styrene	100425	1.0
Styrene oxide	96093	1.0
2,3,7,8−Tetrachlorodibenzo−p−dioxin	1746016	0.00000006
1,1,2,2−Tetrachloroethane	79345	0.03
Tetrachloroethylene (Perchloroethylene)	127184	4.0
Tetraethyl lead	78002	0.01
Tetramethyl lead	75741	0.01
2,4−Toluene diamine	95807	0.002
2,4−Toluene diisocyanate	584849	0.1
o−Toluidine	95534	0.4
Toxaphene (Chlorinated camphene)	8001352	0.006
1,1,2−Trichloroethane	79005	0.1
Trichloroethylene	79016	1.0
2,4,5−Trichlorophenol	95954	1.0
2,4,6−Trichlorophenol	88062	0.6
Trifluralin	1582098	0.9
2,2,4−Trimethylpentane	540841	5.0
Vinyl acetate	108054	1.0
Vinyl bromide (Bromoethene)	593602	0.06
Vinyl chloride	75014	0.02
Vinylidene chloride (1,1−Dichloroethylene)	75354	0.04

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* These values are based on the de minimis levels provided in the proposed rulemaking, as published in the Federal Register on March 14, 1995 (60 FR 13664), pursuant to section 112(g) of the act using a 70−year lifetime exposure duration for all VHAP. Default assumptions and the de minimis values based on inhalation reference doses (RfC) are not changed by this adjustment.

[a] Except for ethylene glycol butyl ether, ethylene glycol ethyl ether (2−ethoxy ethanol), ethylene glycol hexyl ether, ethylene glycol methyl ether (2−ethoxyethanol), ethylene glycol phenyl ether, ethylene glycol propyl ether, ethylene glycol mono−2−ethylhexyl ether, diethylene glycol butyl ether, diethylene glycol ethyl ether, diethylene glycol methyl ether, diethylene glycol hexyl ether, diethylene glycol phenyl ether, diethylene glycol propyl ether, triethylene glycol butyl ether, triethylene glycol ethyl ether, triethylene glycol methyl ether, triethylene glycol propyl ether, ethylene glycol butyl ether acetate, ethylene glycol ethyl ether acetate, and diethylene glycol ethyl ether acetate.

[b] Except for benzo(b)fluoranthene, benzo(a)anthracene, benzo(a)pyrene, 7,12−dimethylbenz(a)anthracene, benz(c)acridine, chrysene, dibenz(ah)anthracene, 1,2:7,8−dibenzopyrene, indeno(1,2,3−cd)pyrene, but including dioxins and furans.

Subchapter III — Surface Coating of Large Appliances

NR 465.21 What this subchapter covers. (1) WHAT IS THE PURPOSE OF THIS SUBCHAPTER?. This subchapter establishes national emission standards for hazardous air pollutants for large appliance surface coating facilities. This subchapter also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

Note: This subchapter is based on the federal regulations contained in 40 CFR part 63 Subpart NNNN, created July 23, 2002.

(2) AM I SUBJECT TO THIS SUBCHAPTER?. (a) You are subject to this subchapter if you own or operate a facility that applies coatings to large appliance parts or products, and is a major source, is located at a major source or is part of a major source of emissions of hazardous air pollutants (HAP), except as provided in par. (d). A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 Mg (10 tons) or more per year or any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year. You are not subject to this subchapter if your large appliance surface coating facility is located at, or is part of, an area source of HAP emissions. An area source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that is not a major source.

(b) The large appliance surface coating source category includes any facility engaged in the surface coating of a large appliance part or product. Large appliance parts and products include cooking equipment; refrigerators, freezers, and refrigerated cabinets and cases; laundry equipment; dishwashers, trash compactors, and water heaters; and heating, ventilation and air−conditioning (HVAC) units, air−conditioning units except those in motor vehicles, air−conditioning and heating combination units, comfort furnaces, and electric heat pumps. Specifically excluded are heat transfer coils and large commercial and industrial chillers.

(c) The large appliance surface coating activities and equipment to which this subchapter applies are all of the following:

1. Surface preparation of large appliance parts and products.

2. Preparation of a coating for application, e.g., mixing in thinners and other components.

3. Application of a coating to large appliance parts and products using, for example, spray guns or dip tanks.

4. Application of porcelain enamel, powder coating and asphalt interior soundproofing coating.

5. Flash−off, drying or curing following the coating application operation.

6. Cleaning of equipment used in coating operations, e.g., application equipment, hangers and racks.

7. Storage of coatings, thinners and cleaning materials.

8. Conveying of coatings, thinners and cleaning materials from storage areas to mixing areas or coating application areas, either manually such as in buckets or by automated means such as by transfer through pipes using pumps.

9. Handling and conveying of waste materials generated by coating operations.

(d) This subchapter does not apply to any of the following:

1. The surface coating of large appliance parts such as metal or plastic handles, hinges or fasteners that have a wider use beyond large appliances.

2. The surface coating of large appliances conducted for the purpose of repairing or maintaining large appliances used by a facility and not for commerce unless organic HAP emissions from the surface coating itself are as high as the rates specified in par. (a).

3. The surface coating of heat transfer coils or large commercial and industrial chillers.

4. Research or laboratory facilities; janitorial, building, and facility maintenance operations; hobby shops operated for noncommercial purposes or coating applications using hand−held non−refillable aerosol containers.

5. Processes involving metal plating or phosphating of a substrate.

(e) If you own or operate an affected source that is subject to this subchapter and at the same affected source you also perform surface coating subject to any other national emission standards for hazardous air pollutants (NESHAP), you may choose for the affected source to comply with only one NESHAP. In order to choose this alternative, the total mass of organic HAP emissions from all surface coating operations in the affected source shall be less than or equal to the total mass of organic HAP emissions that would result if it complied separately with all applicable NESHAP. You shall make this comparison for the initial compliance period and report it in the notification of compliance status as required in s. NR 465.25 (1) (b) 10. and in the notification of compliance status required by the other NESHAP. If you choose this alternative, your demonstration of compliance with the other NESHAP constitutes compliance with this subchapter.

(3) WHAT PARTS OF MY PLANT DOES THIS SUBCHAPTER COVER?. (a) This subchapter applies to each new, reconstructed and existing affected source.

(b) The affected source is the collection of all of the following items that are part of the large appliance surface coating facility:

1. All coating operations as specified in sub. (2).

2. All storage containers and mixing vessels in which coatings, thinners and cleaning materials are stored or mixed.

3. All manual and automated equipment and containers used for conveying coatings, thinners and cleaning materials.

4. All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.

(c) An affected source is a new affected source if its construction commenced after July 23, 2002, and the construction is of a completely new large appliance surface coating facility where previously no large appliance surface coating facility had existed.

(d) An affected source is reconstructed if you meet the criteria as defined in s. NR 460.02 (32).

(e) An affected source is existing if it is not new or reconstructed.

(4) WHEN DO I HAVE TO COMPLY WITH THIS SUBCHAPTER?. (a) The date by which you shall comply with this subchapter is called the compliance date. The compliance date begins the initial compliance period during which you conduct the initial compliance

demonstration described in ss. NR 465.26 (1), 465.27 (1) and 465.28 (1). The compliance date for each type of affected source is as follows:

1. For a new or reconstructed affected source, the compliance date is one of the following as applicable:

a. If the initial startup of your new or reconstructed affected source is on or before July 23, 2002, the compliance date is July 23, 2002.

b. If the initial startup of your new or reconstructed affected source occurs after July 23, 2002, the compliance date is the date of initial startup of your affected source.

2. For an existing affected source, the compliance date is July 25, 2005.

3. For an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP emissions, the compliance date is one of the following as applicable:

a. For any portion of the source that becomes a new or reconstructed affected source subject to this subchapter, the compliance date is the date of initial startup of the affected source, or the date the area source becomes a major source, or July 23, 2002, whichever is latest.

b. For any portion of the source that becomes an existing affected source subject to this subchapter, the compliance date is the date one year after the area source becomes a major source or July 25, 2005, whichever is later.

(b) You shall meet the notification requirements in s. NR 465.25 (1) according to the dates specified in s. NR 465.25 (1) and in ch. NR 460. Some of the notifications shall be submitted before the compliance dates described in par. (a).

History: CR 03−037: cr. Register March 2004 No. 579, eff. 4−1−04.

NR 465.22 Definitions that apply to this subchapter. For terms not defined in this section, the definitions contained in chs. NR 400 and 460 apply to the terms in this subchapter, with definitions in ch. NR 460 taking priority over definitions in ch. NR 400. If this section defines a term which is also defined in ch. NR 400 or 460, the definition in this section applies in this subchapter. In this subchapter:

(1) "Add−on control device" means an air pollution control device, such as a thermal oxidizer or carbon absorber, that reduces pollution in an air stream by destruction or removal before discharge to the atmosphere.

(2) "Adhesive" means any chemical substance that is applied for the purpose of bonding 2 surfaces together.

(3) "Capture efficiency" or "capture system efficiency" means the portion, expressed as a percentage, of the pollutants from an emission source that is delivered to an add−on control device.

(4) "Capture system" means one or more capture devices intended to collect emissions generated by a coating operation in the use of coatings and cleaning materials, both at the point of application and at subsequent points where emissions from the coatings and cleaning materials occur, such as flashoff, drying or curing. As used in this subchapter, multiple capture devices that collect emissions generated by a coating operation are considered a single capture system.

(5) "Cleaning material" means a solvent used to remove contaminants and other materials such as dirt, grease, oil, and dried or wet coating from a substrate before or after coating application, or from equipment associated with a coating operation such as spray booths, spray guns, racks, tanks and hangers. Solvents used to clean substrates or equipment or both are included.

(6) "Coating" means a material applied to a substrate for decorative, protective or functional purposes. For the purposes of this subchapter, coatings include paints, porcelain enamels, sealants, caulks, inks, adhesives, and maskants. Decorative, protective or functional materials that consist only of protective oils, acids, bases or any combination of these substances are not considered coatings for the purposes of this subchapter.

(7) "Coating operation" means equipment used to apply cleaning materials to a substrate to prepare it for coating application or to remove dried coating, to apply coating to a substrate and to dry or cure the coating after application, or to clean coating operation equipment. A single coating operation may include any combination of these types of equipment but always includes at least the point at which a coating or cleaning material is applied and all subsequent points in the affected source where organic HAP emissions from that coating or cleaning material occur. There may be multiple coating operations in an affected source. Applications of coatings using hand−held, nonrefillable aerosol containers, touchup markers, or marking pens are not coating operations for the purposes of this subchapter.

(8) "Coating solids" means the nonvolatile portion of the coating that makes up the dry film.

(9) "Continuous parameter monitoring system" or "CPMS" means the total equipment that may be required to meet the data acquisition and availability requirements of this subchapter used to sample, condition (if applicable), analyze, and provide a record of coating operation, capture system, or add−on control device parameters.

(10) "Controlled coating operation" means a coating operation from which some or all of the organic HAP emissions are routed through an emission capture system and add−on control device.

(11) "Deviation" means any instance in which an affected source subject to this subchapter or an owner or operator of such a source fails to meet any of the following:

(a) Any requirement or obligation established by this subchapter including any emission limit, operating limit or work practice standard.

(b) Any term or condition that is adopted to implement an applicable requirement in this subchapter and that is included in the operating permit for any affected source required to obtain such a permit.

(c) Any emission limit, operating limit or work practice standard in this subchapter during startup, shutdown or malfunction regardless of whether or not the failure is permitted by this subchapter.

(12) "Emission limitation" means an emission limit, operating limit, or work practice standard.

(13) "Enclosure" means a structure that surrounds a source of emissions and captures and directs the emissions to an add−on control device.

(14) "Exempt compound" means a specific compound that is not considered a VOC due to negligible photochemical reactivity. The exempt compounds are listed in s. NR 400.02 (162).

(15) "Facility maintenance" means the routine repair or refurbishing, including surface coating, of the tools, equipment, machinery and structures that comprise the infrastructure of the facility or that are necessary for the facility to function in its intended capacity. Facility maintenance does not mean cleaning of equipment that is part of a large appliances coating operation.

(16) "Heat transfer coil" means a tube−and−fin assembly used in large appliance products to remove heat from a circulating fluid.

(17) "Initial startup" means the first time equipment is brought online in a facility.

(18) "Large appliance part" means a component of a large appliance product except for the wider use parts excluded under s. NR 465.21 (2) (d) 1.

(19) "Large appliance product" means, but is not limited to, any of the following products, except as provided under s. NR

465.21 (2) (d) 3., manufactured for household, recreational, institutional, commercial or industrial use:

(a) Cooking equipment, including ovens, ranges and microwave ovens, but not including toasters, counter−top grills and similar small products.

(b) Refrigerators, freezers and refrigerated cabinets and cases.

(c) Laundry equipment, including washers, dryers, drycleaning machines and pressing machines.

(d) Dishwashers, trash compactors and water heaters.

(e) HVAC units, air−conditioning units except those in motor vehicles, air−conditioning and heating combination units, comfort furnaces and electric heat pumps. Specifically excluded are heat transfer coils and large commercial and industrial chillers.

(20) "Large commercial and industrial chillers" means, for the purposes of this subchapter, equipment designed to produce chilled water for use in commercial or industrial HVAC systems.

(21) "Manufacturer's formulation data" means data on a material, such as a coating, that are supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material using the test methods specified in s. NR 465.26 (2). Manufacturer's formulation data may include information on density, organic HAP content, volatile organic matter content and coating solids content.

(22) "Mass fraction of organic HAP" means the ratio of the mass of organic HAP to the mass of a material in which it is contained, expressed as kg organic HAP per kg of material.

(23) "Month" means a calendar month or a pre−specified period of 28 to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

(24) "Organic HAP content" means the mass of organic HAP per volume of coating solids for a coating, calculated using Equation 2 in s. NR 465.26 (2). The organic HAP content is determined for the coating in the condition it is in when received from its manufacturer or supplier and does not account for any alteration after receipt.

(25) "Permanent total enclosure" or "PTE" means a permanently installed enclosure that meets the criteria of Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for a PTE and that directs all the exhaust gases from the enclosure to an add−on control device.

(26) "Protective oil" means an organic material that is applied to a substrate for the purpose of providing lubrication or protection from corrosion without forming a solid film. Protective oil includes lubricating oils, evaporative oils (including those that evaporate completely), and extrusion oils.

(27) "Research or laboratory facility" means a facility whose primary purpose is for research and development of new processes and products conducted under the close supervision of technically trained personnel and is not engaged in the manufacture of final or intermediate products for commercial purposes, except in a de minimis manner.

(28) "Surface preparation" means use of a cleaning material on a portion of or all of a substrate including use of cleaning material to remove dried coating which is sometimes called depainting.

(29) "Temporary total enclosure" means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source as defined in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

(30) "Thinner" means an organic solvent that is added to a coating after the coating is received from the supplier.

(31) "Total volatile hydrocarbon" or "TVH" means the total amount of nonaqueous volatile organic matter determined according to Methods 204 and 204A to 204F in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), and substituting the term TVH each place in the methods where the term VOC is used. The TVH includes both VOC and non−VOC.

(32) "Uncontrolled coating operation" means a coating operation from which no organic HAP emissions are routed through an emission capture system and add−on control device.

(33) "Volatile organic compound" or "VOC" means any compound defined as VOC in s. NR 400.02 (162).

(34) "Volume fraction of coating solids" means the ratio of the volume of coating solids (also known as volume of nonvolatiles) to the volume of coating, expressed as liters of coating solids per liter of coating.

(35) "Wastewater" means water that is generated in a coating operation and is collected, stored or treated prior to being discarded or discharged.

(36) "You" or "your" means the owner or operator of a facility that applies coatings to large appliance parts or products.

History: CR 03−037: cr. Register March 2004 No. 579, eff. 4−1−04.

NR 465.23 Emission limitations. (1) WHAT EMISSION LIMITS MUST I MEET?. (a) For an existing affected source, you shall limit organic HAP emissions to the atmosphere to no more than 0.13 kg/liter (1.1 lb/gal) of coating solids used during each compliance period.

(b) For a new or reconstructed affected source, you shall limit organic HAP emissions to the atmosphere to no more than 0.022 kg/liter (0.18 lb/gal) of coating solids used during each compliance period.

(2) WHAT ARE MY OPTIONS FOR MEETING THE EMISSION LIMITS?. You shall include all coatings, thinners and cleaning materials used in the affected source when determining whether the organic HAP emission rate is equal to or less than the applicable emission limit in sub. (1). To make this determination, you shall use at least one of the 3 compliance options listed in pars. (a) to (c). You may apply any of the compliance options to an individual coating operation or to multiple coating operations as a group or to the entire affected source. You may use different compliance options for different coating operations or at different times on the same coating operation. However, you may not use different compliance options at the same time on the same coating operation. If you switch between compliance options for any coating operation or group of coating operations, you shall document this switch as required by s. NR 465.25 (3) (c), and you shall report it in the next semiannual compliance report required in s. NR 465.25 (2). The compliance options and requirements are as follows:

(a) *Compliant material option.* Demonstrate that the organic HAP content of each coating used in the coating operation or operations is less than or equal to the applicable emission limit in sub. (1), and that each thinner and each cleaning material used contains no organic HAP. You shall meet all the requirements of s. NR 465.26 (1) to (3) to demonstrate compliance with the emission limit using this option.

(b) *Emission rate without add−on controls option.* Demonstrate that, based on data on the coatings, thinners and cleaning materials used in the coating operation or operations, the organic HAP emission rate for the coating operation or operations is less than or equal to the applicable emission limit in sub. (1). You shall meet all the requirements of s. NR 465.27 (1) to (3) to demonstrate compliance with the emission limit using this option.

(c) *Emission rate with add−on controls option.* Demonstrate that, based on data on the coatings, thinners and cleaning materials used in the coating operation or operations and the emission reductions achieved by emission capture and add−on controls, the organic HAP emission rate for the coating operation or operations is less than or equal to the applicable emission limit in sub. (1). If you use this compliance option, you shall also demonstrate that all emission capture systems and add−on control devices for the coating operation or operations meet the operating limits required in sub. (3), except for solvent recovery systems for which you con-

duct liquid−liquid material balances according to s. NR 465.28 (2) (g), and that you meet the work practice standards required in sub. (4). You shall meet all the requirements of s. NR 465.28 (1) to (9) to demonstrate compliance with the emission limits, operating limits, and work practice standards using this option.

(3) WHAT OPERATING LIMITS MUST I MEET?. (a) For any coating operation on which you use the compliant material option or the emission rate without add−on controls option, you are not required to meet any operating limits.

(b) For any controlled coating operation or operations on which you use the emission rate with add−on controls option, except those for which you use a solvent recovery system and conduct a liquid−liquid material balance according to s. NR 465.28 (2) (g), you shall meet the operating limits specified in Table 1 of this subchapter. These operating limits apply to the emission capture and control systems on the coating operation or operations for which you use this option, and you shall establish the operating limits during the performance test according to the requirements in s. NR 465.28 (8). You shall meet the operating limits at all times after you establish them.

(c) If you use an add−on control device other than those listed in Table 1 of this subchapter, or wish to monitor an alternative parameter and comply with a different operating limit, you shall apply to the U.S. environmental protection agency (EPA) administrator for approval of alternative monitoring under s. NR 460.07 (6).

(4) WHAT WORK PRACTICE STANDARDS MUST I MEET?. (a) For any coating operation on which you use the compliant material option or the emission rate without add−on controls option, you are not required to meet any work practice standards.

(b) If you use the emission rate with add−on controls option, you shall develop and implement a work practice plan to minimize organic HAP emissions from the storage, mixing, and conveying of coatings, thinners, and cleaning materials used in, and waste materials generated by, the coating operation or operations for which you use this option; or you shall meet an alternative standard as provided in par. (c). The plan shall specify practices and procedures to ensure that, at a minimum, all of the following elements are implemented:

1. All organic−HAP−containing coatings, thinners, cleaning materials and waste materials shall be stored in closed containers.

2. Spills of organic−HAP−containing coatings, thinners, cleaning materials and waste materials shall be minimized.

3. Organic−HAP−containing coatings, thinners, cleaning materials and waste materials shall be conveyed from one location to another in closed containers or pipes.

4. Mixing vessels which contain organic−HAP−containing coatings and other materials shall be closed except when you are adding to, removing or mixing the contents.

5. Emissions of organic HAP shall be minimized during cleaning of storage, mixing and conveying equipment.

(c) As provided in 40 CFR 63.6 (g), the administrator may choose to grant you permission to use an alternative to the work practice standards in this subsection.

History: CR 03−037: cr. Register March 2004 No. 579, eff. 4−1−04.

NR 465.24 General compliance requirements. (1) WHAT ARE MY GENERAL REQUIREMENTS FOR COMPLYING WITH THIS SUBCHAPTER?. (a) You shall be in compliance with the emission limitations in this subchapter according to both of the following requirements:

1. Any coating operation or operations for which you use the compliant material option or the emission rate without add−on controls option, as specified in s. NR 465.23 (2) (a) and (b), shall be in compliance with the applicable emission limit in s. NR 465.23 (1) at all times.

2. Any coating operation or operations for which you use the emission rate with add−on controls option, as specified in s. NR 465.23 (2) (c), shall be in compliance with the applicable emission limit in s. NR 465.23 (1) and the work practice standards in s. NR 465.23 (4) at all times. Each controlled coating operation shall be in compliance with the operating limits for emission capture systems and add−on control devices required by s. NR 465.23 (3) at all times, except for solvent recovery systems for which you conduct liquid−liquid material balances according to s. NR 465.28 (2) (g).

(b) You shall always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for purposes of complying with this subchapter, according to the provisions in s. NR 460.05 (4) (a) 1.

(c) If your affected source uses an emission capture system and add−on control device, you shall maintain a log detailing the operation and maintenance of the emission capture system, add−on control device, and continuous parameter monitors during the period between the compliance date specified for your affected source in s. NR 465.21 (4) and the date when the initial emission capture system and add−on control device performance tests have been completed as specified in s. NR 465.28 (1). This requirement does not apply to a solvent recovery system for which you conduct a liquid−liquid material balance according to s. NR 465.28 (2) (g) in lieu of conducting performance tests.

(d) If your affected source uses an emission capture system and add−on control device, you shall develop and implement a written startup, shutdown and malfunction plan according to the provisions in s. NR 460.05 (4) (c). The plan shall address the startup, shutdown and corrective actions in the event of a malfunction of the emission capture system or the add−on control device. The plan shall also address any coating operation equipment that may cause increased emissions or that would affect capture efficiency if the process equipment malfunctions, such as conveyors that move parts among enclosures.

(2) WHAT PARTS OF THE GENERAL PROVISIONS APPLY TO ME?. General provisions of ch. NR 460 apply to an owner or operator of a facility subject to this subchapter as indicated in ch. NR 460 Appendix NNNN.

History: CR 03−037: cr. Register March 2004 No. 579, eff. 4−1−04.

NR 465.25 Notifications, reports and records. (1) WHAT NOTIFICATIONS MUST I SUBMIT?. (a) You shall submit notifications according to ss. NR 460.06 (2), 460.07 (6) (c) and 460.08 (2) to (5) and (8), except as follows:

1. You shall submit the initial notification required by s. NR 460.08 (2) for an existing affected source no later than July 23, 2003. For a new or reconstructed affected source, you shall submit the initial notification no later than 120 days after initial startup or November 20, 2002, whichever is later.

2. You shall submit the notification of compliance status required by s. NR 460.08 (8) no later than 30 calendar days following the end of the initial compliance period described in s. NR 465.26 (1), 465.27 (1) or 465.28 (1) that applies to your affected source.

(b) The notification of compliance status shall contain all of the following information, and the applicable information specified in s. NR 460.08 (8):

1. Company name and address.

2. A statement by a responsible official with that official's name, title and signature certifying the truth, accuracy and completeness of the content of the report.

3. The date of the report and beginning and ending dates of the reporting period. The reporting period is the initial compliance period described in s. NR 465.26 (1), 465.27 (1) or 465.28 (1) that applies to your affected source.

4. Identification of the compliance option or options specified in s. NR 465.23 (2) that you used on each coating operation in the affected source during the initial compliance period.

5. A statement of whether or not the affected source achieved the emission limitations for the initial compliance period.

6. If you had a deviation, all of the following information:

a. A description and statement of the cause of the deviation.

b. If you failed to meet the applicable emission limit in s. NR 465.23 (1), all the calculations you used to determine the kg organic HAP emitted per liter of coating solids used. You do not need to submit information provided by the materials suppliers or manufacturers or test reports.

7. For each of the data items listed in this subdivision that is required by the compliance option or options you used to demonstrate compliance with the emission limit, an example of how you determined the value, including calculations and supporting data. Supporting data can include a copy of the information provided by the supplier or manufacturer of the example coating or material or a summary of the results of testing conducted according to s. NR 465.26 (2) (a), (b) or (c). You do not need to submit copies of any test reports. The data items are as follows:

a. Mass fraction of organic HAP for one coating, for one thinner, and for one cleaning material.

b. Volume fraction of coating solids for one coating.

c. Density for one coating, one thinner, and one cleaning material except that if you use the compliant material option, only the example coating density is required.

d. The amount of waste materials and the mass of organic HAP contained in the waste materials for which you are claiming an allowance in Equation 1 of s. NR 465.27 (2).

8. The determination of kg organic HAP emitted per liter of coating solids used for the compliance option or options you use, as follows:

a. For the compliant material option, an example determination of the organic HAP content for one coating, according to s. NR 465.26 (2).

b. For the emission rate without add−on controls option, the calculation of the total mass of organic HAP emissions, the calculation of the total volume of coating solids used and the calculation of the organic HAP emission rate, using Equations 1 and 1A to 1C, 2 and 3, respectively, of s. NR 465.27 (2).

c. For the emission rate with add−on controls option, the calculation of the total mass of organic HAP emissions for the coatings, thinners and cleaning materials used using Equations 1 and 1A to 1C of s. NR 465.27 (2), the calculation of the total volume of coating solids used using Equation 2 of s. NR 465.27 (2), the calculation of the mass of organic HAP emission reduction by emission capture systems and add−on control devices using Equations 1 and 1A to 1C, 2 and 3 and 3A to 3C of s. NR 465.28 (2), as applicable, and the calculation of the organic HAP emission rate using Equation 4 of s. NR 465.28 (2).

9. For the emission rate with add−on controls option, the following information, except that the information in subd. 9. a. to c. does not apply to solvent recovery systems for which you conduct liquid−liquid material balances according to s. NR 465.28 (2) (g):

a. For each emission capture system, a summary of the data and copies of the calculations supporting the determination that the emission capture system is a permanent total enclosure (PTE) or a measurement of the emission capture system efficiency. Include a description of the protocol followed for measuring capture efficiency, summaries of any capture efficiency tests conducted, and any calculations supporting the capture efficiency determination. If you use the data quality objective (DQO) or lower confidence limit (LCL) approach, you shall also include the statistical calculations to show you meet the DQO or LCL criteria in 40 CFR part 63, subpart KK, Appendix A, incorporated by reference in s. NR 484.04 (24). You do not need to submit complete test reports.

b. A summary of the results of each add−on control device performance test. You do not need to submit complete test reports.

c. A list of each emission capture system's and add−on control device's operating limits and a summary of the data used to calculate those limits.

d. A statement of whether or not you developed and implemented the work practice plan required by s. NR 465.23 (4).

e. A statement of whether or not you developed and implemented the startup, shutdown and malfunction plan required by s. NR 465.24 (1) (d).

10. If you have chosen for your affected source to comply with the requirements of another NESHAP in lieu of the requirements of this subchapter, as allowed in s. NR 465.21 (2) (d), a statement certifying your intent, as well as documentation and supporting materials showing that during the initial compliance period your affected source's total organic HAP emissions were equal to or less than the organic HAP emissions that would have resulted from complying separately with each applicable NESHAP.

(2) WHAT REPORTS MUST I SUBMIT?. You shall submit semiannual compliance reports for each affected source according to the requirements of this subsection. The semiannual compliance reporting requirements of this subsection may be satisfied by other required reports, as specified in par. (a) 5. The semiannual compliance report content and submittal requirements are as follows:

(a) Unless the department has approved a different schedule for submission of reports under s. NR 460.09 (1), you shall prepare and submit each semiannual compliance report according to the following dates and requirements:

1. The first semiannual compliance report shall cover the first semiannual reporting period which begins the day after the end of the initial compliance period described in s. NR 465.26 (1), 465.27 (1) or 465.28 (1) that applies to your affected source and ends on June 30 or December 31, whichever date is the first date following the end of the initial compliance period.

2. Each subsequent semiannual compliance report shall cover the subsequent semiannual reporting period from January 1 to June 30 or the semiannual reporting period from July 1 to December 31.

3. Each semiannual compliance report shall be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

4. For each affected source subject to ch. NR 407, you may submit compliance reports according to the dates established in a permit issued under ch. NR 407 instead of according to the dates specified in subd. 3.

5. Each affected source that has obtained a title V operating permit pursuant to ch. NR 407 shall report all deviations as defined in this subchapter in the semiannual monitoring report required by s. NR 407.09 (1) (c) 3. a. If an affected source submits a semiannual compliance report pursuant to this subsection along with, or as part of, the semiannual monitoring report required by s. NR 407.09 (1) (c) 3. a., and the semiannual compliance report includes all required information concerning deviations from any emission limitation in this subchapter, its submission shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a semiannual compliance report may not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the department.

(b) The semiannual compliance report shall contain all of the following information in addition to the information specified in pars. (c) to (j) that is applicable to your affected source:

1. Company name and address.

2. Statement by a responsible official with that official's name, title, and signature certifying the truth, accuracy and completeness of the content of the report.

3. Date of report and beginning and ending dates of the reporting period. The reporting period is the 6−month period ending on June 30 or December 31.

4. Identification of the compliance option or options specified in s. NR 465.23 (2) that you used on each coating operation during the reporting period. If you switched between compliance options during the reporting period, you shall report the beginning and ending dates you used each option.

(c) If there were no deviations from the emission limitations in s. NR 465.23 (1), (3) and (4) that apply to you, the semiannual compliance report shall include a statement that there were no deviations from the emission limitations during the reporting period.

(d) If you use the compliant material option and there was a deviation from the applicable emission limit in s. NR 465.23 (1), the semiannual compliance report shall contain all of the following information:

1. Identification of each coating used that deviated from the emission limit, each thinner and cleaning material used that contained organic HAP, and the dates and time periods each was used.

2. The determination of the organic HAP content, according to s. NR 465.26 (2) (d), for each coating identified in subd. 1. You do not need to submit background data supporting this calculation, for example, information provided by coating suppliers or manufacturers or test reports.

3. The determination of mass fraction of organic HAP for each thinner and cleaning material identified in subd. 1. You do not need to submit background data supporting this calculation, for example, information provided by material suppliers or manufacturers or test reports.

4. A statement of the cause of each deviation.

(e) If you use the emission rate without add−on controls option and there was a deviation from the applicable emission limit in s. NR 465.23 (1), the semiannual compliance report shall contain all of the following information:

1. The beginning and ending dates of each compliance period during which the organic HAP emission rate exceeded the emission limit.

2. The calculations used to determine the organic HAP emission rate for the compliance period in which the deviation occurred. You shall provide the calculations for Equations 1 and 1A to 1C, 2 and 3 in s. NR 465.27 (2), and if applicable, the calculation used to determine the organic HAP in waste materials according to s. NR 465.27 (2) (e) 2. You do not need to submit background data supporting these calculations, for example, information provided by materials suppliers or manufacturers or test reports.

3. A statement of the cause of each deviation.

(f) If you use the emission rate with add−on controls option and there were no periods during which the continuous parameter monitoring systems were out−of−control as specified in s. NR 460.07 (3) (g), the semiannual compliance report shall include a statement that there were no periods during which the CPMS were out−of−control during the reporting period.

(g) If you use the emission rate with add−on controls option and there was a deviation from an emission limitation, including during periods of startup, shutdown and malfunction, and including any periods when emissions bypassed the add−on control device and were diverted to the atmosphere, the semiannual compliance report shall contain all of the following information:

1. The beginning and ending dates of each compliance period during which the organic HAP emission rate exceeded the applicable emission limit in s. NR 465.23 (1).

2. The calculations used to determine the organic HAP emission rate for each compliance period in which a deviation occurred. You shall provide the calculation of the total mass of organic HAP emissions for the coatings, thinners and cleaning materials used during the compliance period using Equations 1, 1A to 1C and 2 of s. NR 465.27 (2) and, if applicable, the calculation used to determine the mass of organic HAP in waste materials according to s. NR 465.27 (2) (e) 2.; the calculation of the total volume of coating solids used during the compliance period using Equation 2 of s. NR 465.27 (2); the calculation of the mass of organic HAP emission reduction during the compliance period by emission capture systems and add−on control devices, using Equations 1, 1A to 1C, 2, 3 and 3A to 3C of s. NR 465.28 (2); and the calculation of the organic HAP emission rate, using Equation 4 of s. NR 465.28 (2). You do not need to submit the background data supporting these calculations, for example, information provided by materials suppliers or manufacturers or test reports.

3. The date and time that each malfunction started and stopped.

4. A brief description of the CPMS.

5. The date of the latest CPMS certification or audit.

6. The date and time that each CPMS was inoperative, except for zero (low−level) and high−level checks.

7. The date, time and duration that each CPMS was out−of−control, including the information in s. NR 460.07 (3) (h).

8. The date and time period of each deviation from an operating limit in Table 1 of this subchapter, the date and time period of any bypass of the add−on control device, and whether each deviation occurred during a period of startup, shutdown or malfunction or during another period.

9. A summary of the total duration of each deviation from an operating limit in Table 1 of this subchapter and bypass of the add−on control device during the semiannual reporting period and the total duration as a percent of the total source operating time during that semiannual reporting period.

10. A breakdown of the total duration of the deviations from the operating limits in Table 1 of this subchapter and bypasses of the add−on control device during the semiannual reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes and other unknown causes.

11. A summary of the total duration of CPMS downtime during the semiannual reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that semiannual reporting period.

12. A description of any changes in the CPMS, coating operation, emission capture system or add−on control device since the last semiannual reporting period.

13. For each deviation from the work practice standards, a description of the deviation, the date and time period of the deviation and the actions you took to correct the deviation.

14. A statement of the cause of each deviation.

(h) If you use the emission rate with add−on controls option, you shall submit reports of performance test results for emission capture systems and add−on control devices no later than 60 days after completing the tests as specified in s. NR 460.09 (4) (b).

(j) If you use the emission rate with add−on controls option and you have a startup, shutdown or malfunction during the semiannual reporting period, you shall submit the following reports as applicable:

1. If your actions were consistent with your startup, shutdown and malfunction plan (SSMP), you shall include the information specified in s. NR 460.09 (4) (e) in the semiannual compliance report required by par. (a).

2. If your actions were not consistent with your SSMP, you shall submit an immediate startup, shutdown and malfunction report as follows:

The Wisconsin Administrative Code on this web site is updated on the 1st day of each month, current as of that date. See also Are the Codes on this Website Official?

a. You shall describe the actions taken during the event in a report delivered by facsimile, telephone or other means to the department within 2 working days after starting actions that are inconsistent with the plan.

b. You shall submit a letter to the department within 7 working days after the end of the event, unless you have made alternative arrangements with the department as specified in s. NR 460.09 (4) (e) 3. The letter shall contain the information specified in s. NR 460.09 (4) (e) 2.

(3) WHAT RECORDS MUST I KEEP?. You shall collect and keep records of the data and information specified in this subsection. Failure to collect and keep these records is a deviation from the applicable standard. The data and information are as follows:

(a) Each notification and report that you submitted to comply with this subchapter and the documentation supporting each notification and report.

(b) Information provided by materials suppliers or manufacturers such as manufacturer's formulation data or test data used to determine the mass fraction of organic HAP and density for each coating, thinner and cleaning material and the volume fraction of coating solids for each coating. If you conducted testing to determine mass fraction of organic HAP, density or volume fraction of coating solids, a copy of the complete test report. If you use information provided to you by the manufacturer or supplier of the material that was based on testing, the summary sheet of results provided to you by the manufacturer or supplier. You are not required to obtain the test report or other supporting documentation from the manufacturer or supplier.

(c) For each compliance period, the time periods (beginning and ending dates and times) and the coating operations at which each compliance option was used and all determinations of kg organic HAP per liter of coating solids for the compliance option or options you used, as follows:

1. For the compliant material option, the determination of the organic HAP content for each coating, according to s. NR 465.26 (2) (d).

2. For the emission rate without add−on controls option, the calculation of the total mass of organic HAP emissions for the coatings, thinners, and cleaning materials used each month, using Equations 1 and 1A to 1C of s. NR 465.27 (2) and, if applicable, the calculations used to determine the mass of organic HAP in waste materials according to s. NR 465.27 (2) (e) 2.; the calculation of the total volume of coating solids used each month, using Equation 2 of s. NR 465.27 (2); and the calculation of the organic HAP emission rate, using Equation 3 of s. NR 465.27 (2).

3. For the emission rate with add−on controls option, the calculation of the total mass of organic HAP emissions for the coatings, thinners and cleaning materials used each month, using Equations 1 and 1A to 1C of s. NR 465.27 (2) and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to s. NR 465.27 (2) (e) 2.; the calculation of the total volume of coating solids used each month, using Equation 2 of s. NR 465.27 (2); the calculation of the mass of organic HAP emission reduction by emission capture systems and add−on control devices, using Equations 1, 1A to 1C, 2, 3 and 3A to 3C of s. NR 465.28 (2), as applicable; and the calculation of the organic HAP emission rate, using Equation 4 of s. NR 465.28 (2).

(d) The name and volume of each coating, thinner and cleaning material used during each compliance period.

(e) The mass fraction of organic HAP for each coating, thinner and cleaning material used during each compliance period.

(f) The volume fraction of coating solids for each coating used during each compliance period except for zero−HAP coatings for which volume solids determination is not required as allowed in s. NR 465.26 (2) (a).

(g) The density for each coating used during each compliance period except for zero−HAP coatings for which volume solids determination is not required as allowed in s. NR 465.26 (2) (a) and, if you use either the emission rate without add−on controls or the emission rate with add−on controls compliance option, the density for each thinner and cleaning material used during each compliance period.

(h) If you use an allowance in Equation 1 of s. NR 465.27 (2) for organic HAP contained in waste materials sent to or designated for shipment to a treatment, storage and disposal facility (TSDF) according to s. NR 465.27 (2) (e) 2., all of the following information:

1. The name and address of each TSDF to which you sent waste materials for which you use an allowance in Equation 1 of s. NR 465.27 (2), a statement of which subparts under 40 CFR parts 262, 264, 265 and 266 apply to the facility, and the date of each shipment.

2. Identification of the coating operations producing waste materials included in each shipment and the month or months in which you used the allowance for these materials in Equation 1 of s. NR 465.27 (2).

3. The methodology used in accordance with s. NR 465.27 (2) (e) 2. to determine the total amount of waste materials sent to, or the amount collected, stored and designated for transport to, a TSDF each month, and the methodology to determine the mass of organic HAP contained in these waste materials. This shall include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment.

(j) The date, time and duration of each deviation.

(k) If you use the emission rate with add−on controls option, all of the following:

1. For each deviation, whether the deviation occurred during a period of startup, shutdown or malfunction.

2. The records in s. NR 460.05 (4) (c) 3. to 5. related to startup, shutdown and malfunction.

3. The records required to show continuous compliance with each operating limit specified in Table 1 of this subchapter that applies to you.

4. For each capture system that is a PTE, the data and documentation you used to support a determination that the capture system meets the criteria in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for a PTE and has a capture efficiency of 100%, as specified in s. NR 465.28 (6) (a).

5. For each capture system that is not a PTE, the data and documentation you used to determine capture efficiency according to the requirements specified in s. NR 465.28 (5) and (6) (b), including the following as applicable:

a. For a liquid−to−uncaptured−gas protocol using a temporary total enclosure or building enclosure, the mass of total volatile hydrocarbon (TVH) as measured by Method 204A or 204F in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for each material used in the coating operation, and the total TVH for all materials used during each capture efficiency test run, including a copy of the test report. Also the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run, as measured by Method 204D or 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), including a copy of the test report, and documentation that the enclosure used for the capture efficiency test met the criteria in Method 204 in 40 CFR part 51, Appendix M, for either a temporary total enclosure or a building enclosure.

b. For a gas−to−gas protocol using a temporary total enclosure or a building enclosure, the mass of TVH emissions captured by the emission capture system as measured by Method 204B or 204C in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), at the inlet to the add−on control device,

including a copy of the test report. Also, the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run, as measured by Method 204D or E in 40 CFR part 51, Appendix M, including a copy of the test report, and documentation that the enclosure used for the capture efficiency test met the criteria in Method 204 in 40 CFR part 51, Appendix M, for either a temporary total enclosure or a building enclosure.

c. For an alternative protocol, documentation of a capture efficiency determination using an alternative method or protocol as specified in s. NR 465.28 (6) (b) 3., if applicable.

6. For each add−on control device organic HAP destruction or removal efficiency determination as specified in s. NR 465.28 (7), all of the following:

a. Each add−on control device performance test conducted according to s. NR 465.28 (5) and (7).

b. The coating operation conditions during the add−on control device performance test showing that the performance test was conducted under representative operating conditions.

8. The data and calculations you used to establish the emission capture and add−on control device operating limits as specified in s. NR 465.28 (8), and to document compliance with the operating limits as specified in Table 1 of this subchapter.

9. The work practice plan required by s. NR 465.23 (4), and documentation that you are implementing the plan on a continuous basis.

(4) IN WHAT FORM AND FOR HOW LONG MUST I KEEP MY RECORDS?. (a) Your records shall be in a form suitable and readily available for expeditious review, according to s. NR 460.09 (2) (a). Where appropriate, the records may be maintained as electronic spreadsheets or as a database.

(b) As specified in s. NR 460.09 (2) (a), you shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record.

(c) You shall keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report or record, according to s. NR 460.09 (2) (a). You may keep the records off site for the remaining 3 years.

History: CR 03−037: cr. Register March 2004 No. 579, eff. 4−1−04.

NR 465.26 Compliance requirements for the compliant material option. (1) BY WHAT DATE MUST I CONDUCT THE INITIAL COMPLIANCE DEMONSTRATION?. You shall complete the initial compliance demonstration for the initial compliance period according to the requirements in sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.21 (4) and ends on the last day of the first full month after the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next month. The initial compliance demonstration includes the determination according to sub. (2) and supporting documentation showing that, during the initial compliance period, you used no coating with an organic HAP content that exceeded the applicable emission limit in s. NR 465.23 (1), and that you used no thinners or cleaning materials that contained organic HAP.

(2) HOW DO I DEMONSTRATE INITIAL COMPLIANCE WITH THE EMISSION LIMITATIONS?. You may use the compliant material option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You shall use either the emission rate without add−on controls option or the emission rate with add−on controls option for any coating operation in the affected source for which you do not use this option. To demonstrate initial compliance using the compliant material option, the coating operation or group of coating operations may not use any coating with an organic HAP content that exceeds the applicable emission limit in s. NR 465.23 (1) and may not use any thinner or cleaning material that contains organic HAP, as determined according to this section during the initial compliance period. Any coating operation or operations for which you use the compliant material option is not required to meet the operating limits or work practice standards required in s. NR 465.23 (3) and (4), respectively. To demonstrate initial compliance with the emission limitations using the compliant material option, you shall meet all the requirements of this subsection for the coating operation or operations using this option. You shall use the procedures in this subsection on each coating, thinner and cleaning material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. You do not need to redetermine the HAP content of coatings, thinners or cleaning materials that have been reclaimed onsite and reused in the coating operation or operations for which you use the compliant material option, provided these materials, in their condition as received, were demonstrated to comply with the compliant material option. You shall comply with the following requirements and procedures except that if the mass fraction of organic HAP of a coating equals zero, determined according to par. (a), and you use the compliant material option, you are not required to comply with pars. (b) and (c) for that coating:

(a) Determine the mass fraction of organic HAP for each coating, thinner and cleaning material used during the compliance period according to one of the following options:

1. Use Method 311 in 40 CFR part 63, Appendix A, incorporated by reference in s. NR 484.04 (24). You shall use the following procedures when performing a Method 311 test:

a. Count each organic HAP that is measured to be present at 0.1% by mass or more for Occupational Safety and Health Administration (OSHA) defined carcinogens as specified in 29 CFR 1910.1200 (d) (4) and at 1.0% by mass or more for other organic HAP compounds.

Note: For example, if toluene, not an OSHA carcinogen, is measured to be 0.5% of the material by mass, you do not have to count it. Express the mass fraction of each organic HAP you count as a value truncated to 4 places after the decimal point (for example, 0.3791).

b. Calculate the total mass fraction of organic HAP in the test material by adding up the individual organic HAP mass fractions and truncating the result to 3 places after the decimal point.

2. Use Method 24 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), for coatings to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP.

3. Use an alternative test method once the administrator has approved it. You shall follow the procedure in s. NR 460.06 (5) to submit an alternative test method for approval.

4. Use information other than that generated by the test methods specified in subds. 1. to 3., such as manufacturer's formulation data, if they represent each organic HAP that is present at 0.1% by mass or more for OSHA defined carcinogens as specified in 29 CFR 1910.1200 (d) (4) and at 1.0% by mass or more for other organic HAP compounds. If there is a disagreement between information relied on under this subdivision and results of a test conducted according to subds. 1. to 3., the test method results will take precedence.

5. When test data and manufacturer's data for solvent blends are not available, use the default values for mass fraction of organic HAP for these solvent blends listed in Table 2 or 3 of this subchapter. You shall use the values in Table 2 of this subchapter for all solvent blends that match Table 2 entries, and you may only use Table 3 of this subchapter if the solvent blends in the materials you use do not match any of the solvent blends in Table 2 of this subchapter, and you only know whether the blend is aliphatic or aromatic. However, if the results of a Method 311 test indicate higher values than those listed in Table 2 or 3 of this subchapter, the Method 311 results will take precedence. Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain

organic HAP which shall be counted toward the total organic HAP mass fraction of the materials.

(b) Determine the volume fraction of coating solids (liters of coating solids per liter of coating) for each coating used during the compliance period according to one of the following options:

1. Use ASTM Method D2697−86 (1998), "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings", or ASTM Methods D6093−97, "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer", incorporated by reference in s. NR 484.10 (39e) and (55m), respectively, to determine the volume percent of coating solids for each coating. Divide the nonvolatile volume percent obtained with the methods by 100 to calculate volume fraction of coating solids.

2. Obtain the volume fraction of coating solids for each coating from the supplier or manufacturer of the material.

3. If the volume fraction of coating solids cannot be determined using the options in subd. 1. or 2., use the following equation:

$$V_s = 1 - \frac{m_{volatiles}}{D_{avg}}$$

(Equation 1)

where:

V_s is the volume fraction of coating solids, liters coating solids per liter coating

$m_{volatiles}$ is the total volatile matter content of the coating, including HAP, volatile organic compounds (VOC), water and compounds excluded from the VOC definition in s. NR 400.02, determined according to Method 24 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), grams volatile matter per liter coating

D_{avg} is the average density of volatile matter in the coating, grams volatile matter per liter volatile matter, determined from test results using ASTM Method D1475−98, "Standard Test Method for Density of Liquid Coatings, Inks and Related Products", incorporated by reference in s. NR 484.10 (22), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475−98 test results and other information sources, the test results will take precedence.

(c) Determine the density of each coating used during the compliance period from test results using ASTM Method D1475−98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products", incorporated by reference in s. NR 484.10 (22), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475−98 test results and other information sources, the test results will take precedence.

(d) Determine the organic HAP content, kg organic HAP per liter coating solids, of each coating used during the compliance period using the following equation, except that if the mass fraction of organic HAP equals zero, then the organic HAP content also equals zero:

$$H_c = (D_c)(W_c)/V_s$$

(Equation 2)

where:

H_c is the organic HAP content of the coating, kg organic HAP per liter coating solids

D_c is the density of coating, kg coating per liter coating, determined according to par.

W_c is the mass fraction of organic HAP in the coating, kg organic HAP per kg coating, determined according to par. (a)

V_s is the volume fraction of coating solids, liters coating solids per liter coating, determined according to par. (b)

(e) Ensure that the organic HAP content for each coating used during the initial compliance period is less than or equal to the applicable emission limit in s. NR 465.23 (1) and each thinner and cleaning material used during the initial compliance period does not contain any organic HAP, determined according to par. (a). You shall keep all records required by s. NR 465.25 (3) and (4). As part of the notification of compliance status required in s. NR 465.25 (1), you shall identify the coating operation or operations for which you used the compliant material option and submit a statement that the coating operation was, or operations were, in compliance with the emission limitations during the initial compliance period because you used no coatings for which the organic HAP content exceeds the applicable emission limit in s. NR 465.23 (1), and you used no thinners or cleaning materials that contain organic HAP, determined according to par. (a).

(3) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE EMISSION LIMITATIONS?. (a) For each compliance period, to demonstrate continuous compliance, you may not use any coating for which the organic HAP content, determined according to sub. (2) (d), exceeds the applicable emission limit in s. NR 465.23 (1), and may not use any thinner or cleaning material that contains organic HAP, determined according to sub. (2) (a). Each month following the initial compliance period described in sub. (1) is a compliance period.

(b) If you choose to comply with the emission limitations by using the compliant material option, the use of any coating, thinner or cleaning material that does not meet the criteria specified in par. (a) is a deviation from the emission limitations that shall be reported as specified in s. NR 465.25 (1) (b) 6. and (2) (d).

(c) As part of each semiannual compliance report required by s. NR 465.25 (2), you shall submit a statement that you were in compliance with the emission limitations during the reporting period because you used no thinners or cleaning materials that contained organic HAP, and you used no coatings for which the organic HAP content exceeded the applicable emission limit in s. NR 465.23 (1).

(d) You shall maintain records as specified in s. NR 465.25 (3) and (4).

History: CR 03−037: cr. Register March 2004 No. 579, eff. 4−1−04; **CR 05−040: am. (2) (a) 5. Register February 2006 No. 602, eff. 3−1−06.**

NR 465.27 Compliance requirements for the emission rate without add−on controls option. (1) BY WHAT DATE MUST I CONDUCT THE INITIAL COMPLIANCE DEMONSTRATION?. You shall complete the initial compliance demonstration for the initial compliance period according to the requirements of sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.21 (4) and ends on the last day of the first full month after the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next month. The initial compliance demonstration includes the calculations according to sub. (2) and supporting documentation showing that the organic HAP emission rate for the initial compliance period was equal to or less than the applicable emission limit in s. NR 465.23 (1).

(2) HOW DO I DEMONSTRATE INITIAL COMPLIANCE WITH THE EMISSION LIMITATIONS?. You may use the emission rate without add−on controls option for any individual coating operation, for any group of coating operations in the affected source, or for all of the coating operations in the affected source. You shall use either the compliant material option or the emission rate with

add−on controls option for any coating operation or operations in the affected source for which you do not use this option. To demonstrate initial compliance using the emission rate without add−on controls option, the coating operation or operations shall meet the applicable emission limit in s. NR 465.23 (1) but not the operating limits or work practice standards in s. NR 465.23 (3) and (4), respectively, during the initial compliance period. When calculating the organic HAP emission rate according to this subsection, you may not include any coatings, thinners or cleaning materials used on coating operations for which you use the compliant material option or the emission rate with add−on controls option. You do not need to redetermine the mass of organic HAP in coatings, thinners or cleaning materials that have been reclaimed onsite and reused in the coating operation or operations for which you use the emission rate without add−on controls option. You shall meet all of the following requirements to demonstrate initial compliance with the applicable emission limit in s. NR 465.23 (1) for the coating operation or operations:

(a) Determine the mass fraction of organic HAP for each coating, thinner and cleaning material used during the compliance period according to the requirements in s. NR 465.26 (2) (a).

(b) Determine the volume fraction of coating solids for each coating used during the compliance period according to the requirements in s. NR 465.26 (2) (b).

(c) Determine the density of each coating, thinner and cleaning material used during the compliance period according to the requirements in s. NR 465.26 (2) (c).

(d) Determine the volume (liters) of each coating, thinner and cleaning material used during the compliance period by measurement or usage records.

(e) 1. Calculate the mass of organic HAP emissions during the compliance period using the following equations and the procedures in subd. 2. if applicable:

$$H_e = A + B + C - R_w$$

(Equation 1)

where:

H_e is the total mass of organic HAP emissions during the compliance period, kg

A is the total mass of organic HAP in the coatings used during the compliance period, kg, as calculated in Equation 1A

B is the total mass of organic HAP in the thinners used during the compliance period, kg, as calculated in Equation 1B

C is the total mass of organic HAP in the cleaning materials used during the compliance period, kg, as calculated in Equation 1C

R_W is the total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the compliance period, kg, determined according to subd. 2. You may assign a value of zero to Rw if you do not wish to use this allowance

$$A = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i})$$

(Equation 1A)

where:

A is the total mass of organic HAP in the coatings used during the compliance period, kg

$Vol_{c,i}$ is the total volume of coating, i, used during the compliance period, liters

$D_{c,i}$ is the density of coating, i, kg coating per liter coating

$W_{c,i}$ is the mass fraction of organic HAP in coating, i, kg organic HAP per kg coating

m is the number of different coatings used during the compliance period

$$B = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j})$$

(Equation 1B)

where:

B is the total mass or organic HAP in the thinners used during the compliance period, kg

$Vol_{t,j}$ is the total volume of thinner, j, used during the compliance period, liters

$D_{t,j}$ is the density of thinner, j, kg thinner per liter thinner

$W_{t,j}$ is the mass fraction of organic HAP in thinner, j, kg organic HAP per kg thinner

n is the number of different thinners used during the compliance period

$$C = \sum_{k=1}^{P} (Vol_{s,k})(D_{s,k})(W_{s,k})$$

(Equation 1C)

where:

C is the total mass of organic HAP in the cleaning materials used during the compliance period, kg

$Vol_{s,k}$ is the total volume of cleaning material, k, used during the compliance period, liters

$D_{s,k}$ is the density of cleaning material, k, kg cleaning material per liter cleaning material

$W_{s,k}$ is the mass fraction of organic HAP in cleaning material, k, kg organic HAP per kg material

p is the number of different cleaning materials used during the compliance period

2. If you choose to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in the calculation of the mass of organic HAP emissions using Equation 1, you shall determine it according to the following procedures:

a. You may include in the determination of organic HAP in waste materials only the waste materials that are generated by coating operations for which you use Equation 1 in subd. 1. and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265, or 266. The TSDF may be either off−site or on−site. You may not include in the determination the organic HAP contained in wastewater.

b. Determine either the amount of waste materials sent to a TSDF during the compliance period or the amount collected and stored during the compliance period and designated for future transport to a TSDF. You may not include in your determination any waste materials sent to a TSDF during a compliance period if you have already included them in the amount collected and stored during that compliance period or a previous compliance period.

c. Determine the total mass of organic HAP contained in the waste materials specified in subd. 2. b.

d. Document your methodology to determine the amount of waste materials and the total mass of organic HAP they contain, as required in s. NR 465.25 (3) (h).

e. To the extent that waste manifests include this information, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them.

(f) Determine the total volume of coating solids used, liters, which is the combined volume of coating solids for all of the coat-

ings used during the compliance period, using the following equation:

$$V_{st} = \sum_{i=1}^{m} (Vol_{c,i})(V_{s,i})$$

(Equation 2)

where:

V_{st} is the total volume of coating solids used during the compliance period, liters

$Vol_{c,i}$ is the total volume of coating, i, used during the compliance period, liters

$V_{s,i}$ is the volume fraction of coating solids for coating, i, liters solids per liter coating, determined according to s. NR 465.26 (2) (b)

m is the number of coatings used during the compliance period

(g) Calculate the organic HAP emission rate, kg organic HAP per liter coating solids used, using the following equation:

$$H_{avg} = \frac{H_e}{V_{st}}$$

(Equation 3)

where:

H_{avg} is the organic HAP emission rate for the compliance period, kg organic HAP per liter coating solids

H_e is the total mass organic HAP emissions from all materials used during the compliance period, kg, as calculated using Equation 1 in par. (e) 1.

V_{st} is the total volume coating solids used during the compliance period, liters, as calculated using Equation 2 in par. (f)

(h) Ensure that the organic HAP emission rate for the initial compliance period is less than or equal to the applicable emission limit in s. NR 465.23 (1). You shall keep all records as required by s. NR 465.25 (3) and (4). As part of the notification of compliance status required by s. NR 465.25 (1), you shall identify the coating operation or operations for which you used the emission rate without add−on controls option and submit a statement that the coating operation was, or operations were, in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in s. NR 465.23 (1).

(3) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE EMISSION LIMITATIONS?. (a) To demonstrate continuous compliance, the organic HAP emission rate for each compliance period, determined according to sub. (2) (a) to (g), shall be less than or equal to the applicable emission limit in s. NR 465.23 (1). Each month following the initial compliance period described in sub. (1) is a compliance period.

(b) If the organic HAP emission rate for any compliance period exceeded the applicable emission limit in s. NR 465.23 (1), this is a deviation from the emission limitations for that compliance period and shall be reported as specified in s. NR 465.25 (1) (b) 6. and (2) (e).

(c) As part of each semiannual compliance report required by s. NR 465.25 (2), you shall submit a statement that you were in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in s. NR 465.23 (1).

(d) You shall maintain records as specified in s. NR 465.25 (3) and (4).

History: CR 03−037: cr. Register March 2004 No. 579, eff. 4−1−04.

NR 465.28 Compliance requirements for the emission rate with add−on controls option. (1) BY WHAT DATE MUST I CONDUCT PERFORMANCE TESTS AND OTHER INITIAL COMPLIANCE DEMONSTRATIONS?. (a) *Existing affected sources.* For an existing affected source, you shall do all of the following:

1. Install and operate all emission capture systems, add−on control devices, and CPMS you use to demonstrate compliance no later than the applicable compliance date specified in s. NR 465.21 (4). Except for solvent recovery systems for which you conduct liquid−liquid material balances according to sub. (2) (g), you shall conduct a performance test of each capture system and add−on control device according to the procedures in subs. (5) to (7), and establish the operating limits required by s. NR 465.23 (3) no later than the compliance date specified in s. NR 465.21 (4). For a solvent recovery system for which you conduct liquid−liquid material balances according to sub. (2) (g), you shall initiate the first material balance no later than the compliance date specified in s. NR 465.21 (4).

2. Develop and begin implementing the work practice plan required by s. NR 465.23 (4) no later than the compliance date specified in s. NR 465.21 (4).

3. Complete the compliance demonstration for the initial compliance period according to the requirements of sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.21 (4) and ends on the last day of the first full month after the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next month. The initial compliance demonstration includes the results of emission capture system and add−on control device performance tests conducted according to subs. (5) to (7); results of liquid−liquid material balances conducted according to sub. (2) (g); calculations according to sub. (2) and supporting documentation showing that, during the initial compliance period, the organic HAP emission rate was equal to or less than the emission limit in s. NR 465.23 (1) (a); the operating limits established during the performance tests and the results of the continuous parameter monitoring required by sub. (9); and documentation of whether you developed and implemented the work practice plan required by s. NR 465.23 (4).

(b) *New and reconstructed affected sources.* For a new or reconstructed affected source, you shall do all of the following:

1. Install and operate all emission capture systems, add−on control devices, and CPMS you use to demonstrate compliance no later than the applicable compliance date specified in s. NR 465.21 (4). Except for solvent recovery systems for which you conduct liquid−liquid material balances according to sub. (2) (g), conduct a performance test of each capture system and add−on control device according to the procedures in subs. (5) to (7), and establish the operating limits required by s. NR 465.23 (3) no later than 180 days after the applicable compliance date specified in s. NR 465.21 (4). For a solvent recovery system for which you conduct liquid−liquid material balances according to sub. (2) (g), initiate the first material balance no later than 180 days after the applicable compliance date specified in s. NR 465.21 (4).

2. Develop and begin implementing the work practice plan required by s. NR 465.23 (4) no later than the compliance date specified in s. NR 465.21 (4).

3. Complete the compliance demonstration for the initial compliance period according to the requirements of sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.21 (4) and ends on the last day of the first full month after the compliance date, or the date you conduct the performance tests of the emission capture systems and add−on control devices, or initiate the first liquid−liquid material balance for a solvent recovery system; whichever is later. The initial compliance demonstration includes the results of emission capture system and add−on control device performance tests conducted

according to subs. (5) to (7); results of liquid−liquid material balances conducted according to sub. (2) (g); calculations according to sub. (2) and supporting documentation showing that, during the initial compliance period, the organic HAP emission rate was equal to or less than the emission limit in s. NR 465.23 (1) (b); the operating limits established during the performance tests and the results of the continuous parameter monitoring required by sub. (9); and documentation of whether you developed and implemented the work practice plan required by s. NR 465.23 (4).

4. Maintain a log detailing the operation and maintenance of the emission capture system, add−on control device and continuous parameter monitors during the period between the compliance date and the performance test conducted as specified in subd. 1. Begin complying with the operating limits for your affected source on the date you complete the performance tests specified in subd. 1. You do not need to comply with the operating limits for the emission capture system and add−on control device required by s. NR 465.23 (3) until after you have completed the performance tests specified in subd. 1. This requirement does not apply to solvent recovery systems for which you conduct liquid−liquid material balances according to sub. (2) (g).

(2) HOW DO I DEMONSTRATE INITIAL COMPLIANCE?. You may use the emission rate with add−on controls option for any coating operation, for any group of coating operations in the affected source or for all of the coating operations in the affected source. You may include both controlled and uncontrolled coating operations in a group for which you use this option. You shall use either the compliant material option or the emission rate without add−on controls option for any coating operation or operations in the affected source for which you do not use this option. To demonstrate initial compliance, the coating operation or operations for which you use the emission rate with add−on controls option shall meet the applicable emission limit in s. NR 465.23 (1) and the work practice standards required in s. NR 465.23 (4), and each controlled coating operation shall meet the operating limits required in s. NR 465.23 (3). When calculating the organic HAP emission rate according to this subsection, do not include any coatings, thinners or cleaning materials used on coating operations for which you use the compliant material option or the emission rate without add−on controls option. You do not need to redetermine the mass of organic HAP in coatings, thinners or cleaning materials that have been reclaimed onsite and reused in the coating operation or operations for which you use the emission rate with add−on controls option. You shall meet all of the following requirements to demonstrate initial compliance with the emission limitations:

(a) Except as provided in sub. (1) (b) 4. and except for solvent recovery systems for which you conduct liquid−liquid material balances according to the requirements of par. (g), establish and demonstrate continuous compliance during the initial compliance period with the operating limits required by s. NR 465.23 (3), using the procedures specified in subs. (8) and (9).

(b) Develop, implement and document your implementation of the work practice plan required by s. NR 465.23 (4) during the initial compliance period as specified in s. NR 465.25 (3).

(c) Follow the procedures specified in s. NR 465.27 (2) (a) to (d), to determine the mass fraction of organic HAP, density and volume of each coating, thinner and cleaning material used during the compliance period, and the volume fraction of coating solids for each coating used during the compliance period.

(d) Using Equation 1 in s. NR 465.27 (2), calculate the total mass of organic HAP emissions before add−on controls from all coatings, thinners and cleaning materials used during the compliance period in the coating operation or group of coating operations for which you use the emission rate with add−on controls option.

(e) Determine the mass of organic HAP emissions reduced for each controlled coating operation during the compliance period. The emissions reduction determination quantifies the total organic HAP emissions that pass through the emission capture system and are destroyed or removed by the add−on control device. Use the procedures in par. (f) to calculate the mass of organic HAP emissions reduction for each controlled coating operation using an emission capture system and add−on control device other than a solvent recovery system for which you conduct liquid−liquid material balances. For each controlled coating operation using a solvent recovery system for which you conduct a liquid−liquid material balance, use the procedures in par. (g) to calculate the organic HAP emissions reduction.

(f) For each controlled coating operation using an emission capture system and add−on control device other than a solvent recovery system for which you conduct liquid−liquid material balances, calculate the organic HAP emissions reduction by applying the emission capture system efficiency and add−on control device efficiency to the mass of organic HAP contained in the coatings, thinners and cleaning materials that are used in the coating operation served by the emission capture system and add−on control device during the compliance period. For any period of time a deviation specified in sub. (4) (c) or (d) occurs in the controlled coating operation, including a deviation during a period of startup, shutdown or malfunction, you shall assume zero efficiency for the emission capture system and add−on control device. For the purposes of completing the compliance calculations, you shall treat the materials used during a deviation on a controlled coating operation as if they were used on an uncontrolled coating operation for the time period of the deviation. You may not include those materials in the calculations of organic HAP emissions reduction in Equation 1. The organic HAP emissions reduction shall be calculated using the following equations:

$$H_c = (A_I + B_I + C_I)\left(\frac{CE}{100} x \frac{DRE}{100}\right)$$

(Equation 1)

where:

H_c is the mass of organic HAP emissions reduction for the controlled coating operation during the compliance period, kg

A_I is the total mass of organic HAP in the coatings used in the controlled coating operation, kg, as calculated in Equation 1A

B_I is the total mass of organic HAP in the thinners used in the controlled coating operation, kg, as calculated in Equation 1B

C_I is the total mass of organic HAP in the cleaning materials used in the controlled coating operation during the compliance period, kg, as calculated in Equation 1C

CE is the capture efficiency of the emission capture system vented to the add−on control device, percent. Use the test methods and procedures specified in subs. (5) and (6) to measure and record capture efficiency.

DRE is the organic HAP destruction or removal efficiency of the add−on control device, percent. Use the test methods and procedures in subs. (5) and (6) to measure and record the organic HAP destruction or removal efficiency.

$$A_I = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i})$$

(Equation 1A)

where:

A_I is the mass of organic HAP in the coatings used in the controlled coating operation, kg

$Vol_{c,i}$ is the total volume of coating, i, used, liters

$D_{c,i}$ is the density of coating, i, kg per liter

$W_{c,i}$ is the mass fraction of organic HAP in coating, i, kg per kg

m is the number of different coatings used

$$B_I = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j})$$

(Equation 1B)

where:

B_I is the mass of organic HAP in the thinners used in the controlled coating operation, kg

$Vol_{t,j}$ is the total volume of thinner, j, used, liters

$D_{t,j}$ is the density of thinner, j, kg per liter

$W_{t,j}$ is the mass fraction of organic HAP in thinner, j, kg per kg

n is the number of different thinners used

$$C_I = \sum_{k=1}^{P} (Vol_{s,k})(D_{s,k})(W_{s,k})$$

(Equation 1C)

where:

C_I is the mass of organic HAP in the cleaning materials used in the controlled coating operation, kg

$Vol_{s,k}$ is the total volume of cleaning material, k, used, liters

$D_{s,k}$ is the density of cleaning material, k, kg per liter

$W_{s,k}$ is the mass fraction of organic HAP in cleaning material, k, kg per kg

p is the number of different cleaning materials used

(g) For each controlled coating operation using a solvent recovery system for which you conduct liquid−liquid material balances, calculate the organic HAP emissions reduction by applying the volatile organic matter collection and recovery efficiency to the mass of organic HAP contained in the coatings, thinners and cleaning materials that are used in the coating operation controlled by the solvent recovery system during the compliance period. The mass of organic HAP emission reduction by the solvent recovery system shall be calculated using the following procedures and equations:

1. For each solvent recovery system, install, calibrate, maintain and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system each compliance period. The device shall be initially certified by the manufacturer to be accurate to within ±2.0% of the mass of volatile organic matter recovered.

2. For each solvent recovery system, determine the mass of volatile organic matter recovered for the compliance period, kg, based on measurement with the device required in subd. 1.

3. Determine the mass fraction of volatile organic matter for each coating used in the coating operation controlled by the solvent recovery system during the compliance period, kg volatile organic matter per kg coating. You may determine the volatile organic matter mass fraction using Method 24 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), or an EPA approved alternative method, or you may use information provided by the manufacturer or supplier of the coating. In the event of any inconsistency between information provided by the manufacturer or supplier and the results of Method 24, or an approved alternative method, the test method results will govern.

4. Determine the density of each coating, thinner and cleaning material used in the coating operation controlled by the solvent recovery system during the compliance period, kg per liter, according to s. NR 465.27 (2) (c).

5. Measure the volume of each coating, thinner and cleaning material used in the coating operation controlled by the solvent recovery system during the compliance period, liters.

6. Calculate the solvent recovery system's volatile organic matter collection and recovery efficiency, using the following equation:

$$R_V = 100 \frac{M_{VR}}{\sum_{i=1}^{m} Vol_i D_i C_{Vi} + \sum_{j=1}^{n} Vol_j D_j + \sum_{k=1}^{p} Vol_k D_k}$$

(Equation 2)

where:

R_V is the volatile organic matter collection and recovery efficiency of the solvent recovery system during the compliance period, percent

M_{VR} is the mass of volatile organic matter recovered by the solvent recovery system during the compliance period, kg

Vol_i is the volume of coating, i, used in the coating operation controlled by the solvent recovery system during the compliance period, liters

D_i is the density of coating, i, kg coating per liter coating

C_{Vi} is the mass fraction of volatile organic matter for coating, i, kg volatile organic matter per kg coating

Vol_j is the volume of thinner, j, used in the coating operation controlled by the solvent recovery system during the compliance period, liters

D_j is the density of thinner, j, kg thinner per liter thinner

Vol_k is the volume of cleaning material, k, used in the coating operation controlled by the solvent recovery system during the compliance period, liters

D_k is the density of cleaning material, k, kg cleaning material per liter cleaning material

m is the number of different coatings used in the coating operation controlled by the solvent recovery system during the compliance period

n is the number of different thinners used in the coating operation controlled by the solvent recovery system during the compliance period

p is the number of different cleaning materials used in the coating operation controlled by the solvent recovery system during the compliance period

7. Calculate the mass of organic HAP emissions reduction for the coating operation controlled by the solvent recovery system during the compliance period, using the following equation:

$$H_{CSR} = (A_I + B_I + C_I)\left(\frac{R_V}{100}\right)$$

(Equation 3)

where:

H_{CSR} is the mass of organic HAP emissions reduction for the coating operation controlled by the solvent recovery system using a liquid−liquid material balance during the compliance period, kg

A_I is the total mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 1A in par. (f)

B_I is the total mass of organic HAP in the thinners used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 1B in par. (f)

C_I is the total mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 1C in par. (f)

R_V is the volatile organic matter collection and recovery efficiency of the solvent recovery system, percent, from Equation 2 in subd. 6.

(h) Determine the total volume of coating solids used, liters, which is the combined volume of coating solids for all the coatings used during the compliance period, using Equation 2 in s. NR 465.27 (2) (f).

(i) Determine the organic HAP emission rate to the atmosphere, kg organic HAP per liter coating solids used during the compliance period, using the following equation:

$$H_{HAP} = \frac{H_e - \sum_{i=1}^{q}(H_{C,i}) - \sum_{j=1}^{r}(H_{CSR,j})}{V_{st}}$$

(Equation 4)

where:

H_{HAP} is the organic HAP emission rate to the atmosphere during the compliance period, kg organic HAP per liter coating solids used

H_e is the total mass of organic HAP emissions before add−on controls from all the coatings, thinners and cleaning materials used during the compliance period, kg, determined according to par. (d)

$H_{C,i}$ is the total mass of organic HAP emissions reduction for controlled coating operation, i, during the compliance period, kg, from Equation 1 in par. (f)

$H_{CSR,j}$ is the total mass of organic HAP emissions reduction for controlled coating operation, j, during the compliance period, kg, from Equation 3 in par. (g)

V_{st} is the total volume of coating solids used during the compliance period, liters, from Equation 2 in s. NR 465.27 (2) (f)

q is the number of controlled coating operations except those controlled with a solvent recovery system

r is the number of coating operations controlled with a solvent recovery system

(j) Demonstrate initial compliance with the emission limit, by ensuring that the organic HAP emission rate calculated using Equation 4 in par. (i), is less than or equal to the applicable emission limit in s. NR 465.25 (3). Keep all records as required by s. NR 465.25 (3) and (4). As part of the notification of compliance status required by s. NR 465.25 (1), identify the coating operation or operations for which you used the emission rate with add−on controls option and submit a statement that the coating operation or operations was or were in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in s. NR 465.23 (1), and you achieved the operating limits and the work practice standards required by s. NR 465.23 (3) and (4) respectively.

(4) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE EMISSION LIMITATIONS?. (a) To demonstrate continuous compliance with the applicable emission limit in s. NR 465.23 (1), the organic HAP emission rate for each compliance period determined according to the procedures in sub. (2) shall be equal to or less than the applicable emission limit in s. NR 465.23 (1). Each month following the initial compliance period described in sub. (1) is a compliance period.

(b) If the organic HAP emission rate for any compliance period exceeded the applicable emission limit in s. NR 465.23 (1), this is a deviation from the emission limitation for that compliance period and shall be reported as specified in s. NR 465.25 (1) (b) 6. and (2) (g).

(c) You shall demonstrate continuous compliance with each operating limit required by s. NR 465.23 (3) that applies to you as specified in Table 1 of this subchapter, and shall do the following as applicable:

1. Report as a deviation from the operating limit, as specified in s. NR 465.25 (1) (b) 6. and (2) (g), if an operating parameter is out of the allowed range specified in Table 1 of this subchapter.

2. If an operating parameter deviates from the operating limit specified in Table 1 of this subchapter, assume that the emission capture system and add−on control device were achieving zero efficiency during the time period of the deviation. For the purposes of completing the compliance calculations specified in sub. (2), treat the materials used during a deviation on a controlled coating operation as if they were used on an uncontrolled coating operation for the time period of the deviation. You may not include those materials in the calculation of organic HAP emissions reductions in Equation 1 in sub. (2) (f).

(d) You shall meet the requirements for bypass lines in sub. (9) (b). You shall report it as a deviation, as specified in s. NR 465.25 (1) (b) 6. and (2) (g), if any bypass line is opened and emissions are diverted to the atmosphere when the coating operation is running. For the purposes of completing the compliance calculations specified in sub. (2), you shall treat the materials used during a deviation on a controlled coating operation as if they were used on an uncontrolled coating operation for the time period of the deviation. You may not include those materials in the calculation of organic HAP emissions reductions in Equation 1 in sub. (2) (f).

(e) You shall demonstrate continuous compliance with the work practice standards in s. NR 465.23 (4). You shall report it as a deviation from the work practice standards, as specified in s. NR 465.25 (1) (b) 6. and (2) (g), if you did not develop a work practice plan, did not implement the plan, or you did not keep the records required by s. NR 465.25 (3) (k) 9.

(f) As part of each semiannual compliance report required in s. NR 465.25 (2), you shall submit a statement that you were in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in s. NR 465.23 (1), and you achieved the operating limits and the work practice standards required by s. NR 465.23 (3) and (4), respectively, during each compliance period.

(g) During periods of startup, shutdown and malfunction of the emission capture system, add−on control device or coating operation that may affect emission capture or control device efficiency, you shall operate in accordance with the SSMP required by s. NR 465.24 (1) (d).

(h) Consistent with ss. NR 460.05 (4) and 460.06 (4) (a), deviations that occur during a period of startup, shutdown or malfunction of the emission capture system, add−on control device or

coating operation that may affect emission capture or control device efficiency are not violations if you demonstrate to the department's satisfaction that you were operating in accordance with the SSMP. The department will determine whether deviations that occur during a period of startup, shutdown or malfunction are violations according to the provisions in s. NR 460.05 (4).

(j) You shall maintain records as specified in s. NR 465.25 (3) and (4).

(5) WHAT ARE THE GENERAL REQUIREMENTS FOR PERFORMANCE TESTS?. (a) You shall conduct each performance test required by sub. (1) according to the requirements in s. NR 460.06 (4) (a) and under the following conditions unless you obtain a waiver of the performance test according to the provisions in s. NR 460.06 (7):

1. Representative operating conditions for the coating operation. Operations during periods of startup, shutdown or malfunction and periods of nonoperation do not constitute representative conditions. You shall record the process information that is necessary to document operating conditions during the test and explain why the conditions represent normal operation.

2. When the emission capture system and add−on control device are operating at a representative flow rate, and the add−on control device is operating at a representative inlet concentration. You shall record information that is necessary to document emission capture system and add−on control device operating conditions during the test and explain why the conditions represent normal operation.

(b) You shall conduct each performance test of an emission capture system according to the requirements in sub. (6) and of an add−on control device according to the requirements in sub. (7).

(c) The performance test to determine add−on control device organic HAP destruction or removal efficiency shall consist of 3 runs as specified in s. NR 460.06 (4) (c) and each run shall last at least one hour.

(6) HOW DO I DETERMINE THE EMISSION CAPTURE SYSTEM EFFICIENCY?. You shall use the following procedures and test methods to determine capture efficiency as part of the performance test required by sub. (1):

(a) You may assume the capture system efficiency is 100% if both of the following conditions are met:

1. The capture system meets the criteria of Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for a PTE and directs all the exhaust gases from the enclosure to an add−on control device.

2. All coatings, thinners and cleaning materials used in the coating operation are applied within the capture system; coating solvent flash−off and coating, curing and drying occurs within the capture system; and the removal or evaporation of cleaning materials from the surfaces they are applied to occurs within the capture system. For example, this criterion is not met if parts enter the open shop environment when being moved between a spray booth and a curing oven.

(b) If the capture system does not meet both of the criteria in par. (a), use one of the 3 protocols described in subds. 1. to 3. to measure capture efficiency. The capture efficiency measurements use TVH capture efficiency as a surrogate for organic HAP capture efficiency. For the protocols in subds. 1. and 2., the capture efficiency measurement shall consist of 3 test runs. Each test run shall be at least 3 hours duration or the length of a production run, whichever is longer, up to 8 hours. For the purposes of this test, a production run means the time required for a single part to go from the beginning to the end of production which includes surface preparation activities and drying or curing time. The protocols are as follows:

1. 'Liquid−to−uncaptured−gas protocol using a temporary total enclosure or building enclosure.' The liquid−to−uncaptured−gas protocol compares the mass of liquid TVH in materials used in the coating operation to the mass of TVH emissions not captured by the emission capture system. You shall use the following procedures to measure emission capture system efficiency using the liquid−to−uncaptured−gas protocol:

a. Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash−off, curing and drying areas. The areas of the coating operation where capture devices collect emissions for routing to an add−on control device, such as the entrance and exit areas of an oven or spray booth, shall also be inside the enclosure. The enclosure shall meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

b. Use Method 204A or 204F in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to determine the mass fraction of TVH liquid input from each coating, thinner and cleaning material used in the coating operation during each capture efficiency test run. To make the determination, substitute TVH for each occurrence of the term VOC in the methods.

c. Use the following equation to calculate the total mass of TVH liquid input from all the coatings, thinners and cleaning materials used in the coating operation during each capture efficiency test run:

$$TVH_{used} = \sum_{i=1}^{n} (TVH_i)(Vol_i)(D_i)$$

(Equation 5)

where:

TVH_{used} is the total mass of TVH liquid input from all coatings, thinners and cleaning materials used in the coating operation during the capture efficiency test run, kg

TVH_i is the mass fraction of TVH in coating, thinner or cleaning material, i, that is used in the coating operation during the capture efficiency test run, kg TVH per kg material

Vol_i is the total volume of coating, thinner or cleaning material, i, used in the coating operation during the capture efficiency test run, liters

D_i is the density of coating, thinner or cleaning material, i, kg material per liter material

n is the number of different coatings, thinners and cleaning materials used in the coating operation during the capture efficiency test run

d. Use Method 204D or 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to measure the total mass, kg, of TVH emissions that are not captured by the emission capture system; they are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement substitute TVH for each occurrence of the term VOC in the methods. Use Method 204D if the enclosure is a temporary total enclosure. Use Method 204E if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside a building enclosure, other than the coating operation for which capture efficiency is being determined, shall be shut down, but all fans and blowers shall be operating normally.

e. For each capture efficiency test run, determine the percent capture efficiency of the emission capture system, using the following equation:

$$CE = \frac{(TVH_{used} - TVH_{uncaptured})}{TVH_{used}} x100$$

(Equation 6)

where:

CE is the capture efficiency of the emission capture system vented to the add−on control device, percent

TVH_{used} is the total mass of TVH liquid input used in the coating operation during the capture efficiency test run, kg

$TVH_{uncaptured}$ is the total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg

f. Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the 3 test runs.

2. 'Gas−to−gas protocol using a temporary total enclosure or a building enclosure.' The gas−to−gas protocol compares the mass of TVH emissions captured by the emission capture system to the mass of TVH emissions not captured. You shall use the following procedures to measure emission capture system efficiency using the gas−to−gas protocol.

a. Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and cleaning materials are applied and all areas where emissions from these applied coatings and materials subsequently occur such as flash−off, curing and drying areas. The areas of the coating operation where capture devices collect emissions generated by the coating operation for routing to an add−on control device, such as the entrance and exit areas of an oven or a spray booth, shall also be inside the enclosure. The enclosure shall meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

b. Use Method 204B or 204C in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to measure the total mass, kg, of TVH emissions captured by the emission capture system during each capture efficiency test run as measured at the inlet to the add−on control device. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods. The sampling points for the Method 204B or 204C measurement shall be upstream from the add−on control device and shall represent total emissions routed from the capture system and entering the add−on control device. If multiple emission streams from the capture system enter the add−on control device without a single common duct, the emissions entering the add−on control device shall be simultaneously measured in each duct, and the total emissions entering the add−on control device shall be determined.

c. Use Method 204D or 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to measure the total mass, kg, of TVH emissions that are not captured by the emission capture system; they are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods. Use Method 204D if the enclosure is a temporary total enclosure. Use Method 204E if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure other than the coating operation for which capture efficiency is being determined shall be shut down, but all fans and blowers shall be operating normally.

d. For each capture efficiency test run, determine the percent capture efficiency of the emission capture system, using the following equation:

$$CE = \frac{TVH_{captured}}{\left(TVH_{captured} + TVH_{uncaptured}\right)} x100$$

(Equation 7)

where:

CE is the capture efficiency of the emission capture system vented to the add−on control device, percent

$TVH_{captured}$ is the total mass of TVH captured by the emission capture system as measured at the inlet to the add−on control device during the emission capture efficiency test run, kg

$TVH_{uncaptured}$ is the total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg

e. Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the 3 test runs.

3. 'Alternative capture efficiency protocol.' As an alternative to the procedures specified in subds. 1. and 2., you may determine capture efficiency using any other capture efficiency protocol and test methods that satisfy the criteria of either the DQO or LCL approach as described in 40 CFR part 63, Subpart KK, Appendix A, incorporated by reference in s. NR 484.04 (24).

(7) HOW DO I DETERMINE THE ADD−ON CONTROL DEVICE EMISSION DESTRUCTION OR REMOVAL EFFICIENCY?. (a) For all types of add−on control devices, use the following test methods:

1. Method 1 or 1A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), as appropriate, to select sampling sites and velocity traverse points.

2. Method 2, 2A, 2C, 2D, 2F or 2G in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), as appropriate, to measure gas volumetric flow rate.

3. Method 3, 3A or 3B in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), as appropriate, for gas analysis to determine dry molecular weight. You may also use, as an alternative to Method 3B, the manual method for measuring the oxygen, carbon dioxide and carbon monoxide content of exhaust gas in ANSI/ASME, PTC 19.10−1981, "Flue and Exhaust Gas Analyses", incorporated by reference in s. NR 484.11 (6).

4. Method 4 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), to determine stack gas moisture.

5. Methods for determining gas volumetric flow rate, dry molecular weight, and stack gas moisture shall be performed, as applicable, during each test run.

(b) Measure total gaseous organic mass emissions as carbon at the inlet and outlet of the add−on control device simultaneously, using either Method 25 or 25A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), and using the same method for both the inlet and outlet measurements according to the following criteria:

1. Use Method 25 if the add−on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be more than 50 parts per million (ppm) at the control device outlet.

2. Use Method 25A if the add−on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be 50 ppm or less at the control device outlet.

3. Use Method 25A if the add−on control device is not an oxidizer.

(c) If 2 or more add−on control devices are used for the same emission stream, you shall measure emissions at the outlet of each device.

Note: For example, if one add−on control device is a concentrator with an outlet for the high−volume, dilute stream that has been treated by the concentrator, and a second add−on control device is an oxidizer with an outlet for the low−volume, concentrated stream that is treated with the oxidizer, you shall measure emissions at the outlet of the oxidizer and the high−volume dilute stream outlet of the concentrator.

(d) For each test run, determine the total gaseous organic emissions mass flow rates for the inlet and the outlet of the add−on control device, using Equation 8 in this paragraph. If there is more than one inlet or outlet to the add−on control device, you shall calculate the total gaseous organic mass flow rate using Equation 8

in this paragraph for each inlet and each outlet and then total all of the inlet emissions and total all of the outlet emissions.

$$M_f = Q_{sd} C_c [12] [0.0416] [10^{-6}]$$

(Equation 8)

where:

M_f is the total gaseous organic emissions mass flow rate, kg/per hour (h)

C_c is the concentration of organic compounds as carbon in the vent gas, as determined by Method 25 or Method 25A, parts per million by volume (ppmv), dry basis

Q_{sd} is the volumetric flow rate of gases entering or exiting the add−on control device, as determined by Method 2, 2A, 2C, 2D, 2F or 2G, dry standard cubic meters/hour (dscm/h)

0.0416 = conversion factor for molar volume, kg−moles per cubic meter (mol/m^3) (at 293 Kelvin (K) and 760 millimeters of mercury (mm Hg))

(e) For each test run, determine the add−on control device organic emissions destruction or removal efficiency, using the following equation:

$$DRE = \frac{M_{fi} - M_{fo}}{M_{fi}} 100$$

(Equation 9)

where:

DRE is the add−on control device organic emissions destruction or removal efficiency, percent

M_{fi} is the total gaseous organic emissions mass flow rate at the inlet or inlets to the add−on control device, using Equation 8 in par. (d), kg/h

M_{fo} is the total gaseous organic emissions mass flow rate at the outlet or outlets of the add−on control device, using Equation 8 in par. (d), kg/h

(f) Determine the emission destruction or removal efficiency of the add−on control device as the average of the efficiencies determined in the 3 test runs and calculated in Equation 9 in par. (e).

(8) HOW DO I ESTABLISH THE EMISSION CAPTURE SYSTEM AND ADD−ON CONTROL DEVICE OPERATING LIMITS DURING THE PERFORMANCE TEST?. During the performance test required by sub. (1) and described in subs. (5) to (7), you shall establish the operating limits required by s. NR 465.23 (3) according to the following requirements, as applicable, unless you have received approval for alternative monitoring and operating limits under s. NR 460.07 (6) as specified in s. NR 465.23 (3):

(a) *Thermal oxidizers.* If your add−on control device is a thermal oxidizer, according to both of the following:

1. During the performance test, you shall monitor and record the combustion temperature at least once every 15 minutes during each of the 3 test runs. You shall monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

2. Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature is the minimum operating limit for your thermal oxidizer.

(b) *Catalytic oxidizers.* 1. If your add−on control device is a catalytic oxidizer, according to either of the following:

a. During the performance test, monitor and record the temperature just before the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes during each of the 3 test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed and the average temperature difference across the catalyst bed maintained during the performance test. These are the minimum operating limits for your catalytic oxidizer.

b. Monitor the temperature just before the catalyst bed and implement a site−specific inspection and maintenance plan for your catalytic oxidizer as specified in subd. 2. During the performance test, you shall monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the 3 test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed during the performance test. This is the minimum operating limit for your catalytic oxidizer.

2. You shall develop and implement an inspection and maintenance plan for any catalytic oxidizer or oxidizers for which you elect to monitor according to subd. 1. b. The plan shall address, at a minimum, the following elements:

a. Annual sampling and analysis of the catalyst activity (i.e., conversion efficiency) following the manufacturer's or catalyst supplier's recommended procedures.

b. Monthly inspection of the oxidizer system including the burner assembly and fuel supply lines for problems and, as necessary, adjusting the equipment to assure proper air−to−fuel mixtures.

c. Annual internal and monthly external visual inspection of the catalyst bed to check for channeling, abrasion and settling. If problems are found, you shall take corrective action consistent with the manufacturer's recommendations and conduct a new performance test to determine destruction efficiency according to sub. (7).

(c) *Carbon adsorbers.* If your add−on control device is a carbon absorber, according to both of the following:

1. Monitor and record the total regeneration desorbing gas (e.g., steam or nitrogen) mass flow for each regeneration cycle and the carbon bed temperature after each carbon bed regeneration and cooling cycle for the regeneration cycle either immediately preceding or immediately following the performance test.

2. The operating limits for your carbon absorber are the minimum total desorbing gas mass flow recorded during the regeneration cycle and the maximum carbon bed temperature recorded after the cooling cycle.

(d) *Condensers.* If your add−on control device is a condenser, according to both of the following:

1. During the performance test, monitor and record the condenser outlet (product side) gas temperature at least once every 15 minutes during each of the 3 test runs.

2. Use the data collected during the performance test to calculate and record the average condenser outlet (product side) gas temperature maintained during the performance test. This average condenser outlet gas temperature is the maximum operating limit for your condenser.

(e) *Concentrators.* If your add−on control device includes a concentrator, according to all of the following:

1. During the performance test, monitor and record the desorption concentrate stream gas temperature at least once every 15 minutes during each of the 3 runs of the performance test.

2. Use the data collected during the performance test to calculate and record the average temperature. This is the minimum operating limit for the desorption concentrate gas stream temperature.

3. During the performance test, monitor and record the pressure drop of the dilute stream across the concentrator at least once every 15 minutes during each of the 3 runs of the performance test.

4. Use the data collected during the performance test to calculate and record the average pressure drop. This is the maximum operating limit for the dilute stream across the concentrator.

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(f) *Emission capture system.* 1. For a PTE, according to Table 1 of this subchapter.

2. For each capture device that is not part of a PTE that meets the criteria of sub. (6) (a), according to both of the following:

a. During the capture efficiency determination required by sub. (1) and described in subs. (5) and (6), monitor and record either the gas volumetric flow rate or the duct static pressure for each separate capture device in your emission capture system at least once every 15 minutes during each of the 3 test runs at a point in the duct between the capture device and the add−on control device inlet.

b. Calculate and record the average gas volumetric flow rate or duct static pressure for the 3 test runs for each capture device. This average gas volumetric flow rate or duct static pressure is the minimum operating limit for that specific capture device.

(9) WHAT ARE THE REQUIREMENTS FOR CONTINUOUS PARAMETER MONITORING SYSTEM INSTALLATION, OPERATION AND MAINTENANCE?. (a) *General.* 1. You shall install, operate and maintain each CPMS according to the following requirements, except that subd. 1. a. and b. do not apply to capture system bypass lines and carbon adsorbers as specified in pars. (b) and (d):

a. The CPMS shall complete a minimum of one cycle of operation for each successive 15−minute period. You shall have a minimum of 4 equally spaced successive cycles of CPMS operation in one hour.

b. Determine the average of all recorded readings for each successive 3−hour period of the emission capture system and add−on control device operation except as specified in subd. 1. f.

c. Record the results of each inspection, calibration and validation check of the CPMS.

d. Maintain the CPMS at all times and have available necessary parts for routine repairs of the monitoring equipment.

e. Operate the CPMS and collect emission capture system and add−on control device parameter data at all times that a controlled coating operation is operating except during monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, if applicable, calibration checks and required zero and span adjustments).

f. You may not use emission capture system or add−on control device parameter data recorded during monitoring malfunctions, associated repairs, out−of−control periods, or required quality assurance or control activities when calculating data averages. You shall use all the data collected during all other periods in calculating the data averages for determining compliance with the emission capture system and add−on control device operating limits.

2. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the CPMS to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Except for periods of required quality assurance or control activities, any period during which the CPMS fails to operate and record data continuously as required by subd. 1. a., or generates data that cannot be included in calculating averages as specified in subd. 1. f., is a deviation from the monitoring requirements.

(b) *Capture system bypass line.* You shall comply with all of the following requirements, in addition to those specified in par. (a) 1. c. to e., for each emission capture system that contains bypass lines that could divert emissions away from the add−on control device to the atmosphere:

1. Monitor or secure the valve or closure mechanism controlling the bypass line in a nondiverting position in such a way that the valve or closure mechanism cannot be opened without creating a record that the valve was opened. The method used to monitor or secure the valve or closure mechanism shall meet one of the following requirements:

a. Install, calibrate, maintain and operate, according to the manufacturer's specifications, a flow control position indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add−on control device or diverted from the add−on control device. The time of occurrence and flow control position shall be recorded, as well as every time the flow direction is changed. The flow control position indicator shall be installed at the entrance to any bypass line that could divert the emissions away from the add−on control device to the atmosphere.

b. Secure any bypass line valve in the closed position with a car−seal or a lock−and−key type configuration. You shall visually inspect the seal or closure mechanism at least once every month to ensure that the valve is maintained in the closed position and the emissions are not diverted away from the add−on control device to the atmosphere.

c. Ensure that any bypass line valve is in the closed, non−diverting, position through monitoring of valve position at least once every 15 minutes. You shall inspect the monitoring system at least once every month to verify that the monitor will indicate valve position.

d. Use an automatic shutdown system in which the coating operation is stopped when flow is diverted by the bypass line away from the add−on control device to the atmosphere when the coating operation is running. You shall inspect the automatic shutdown system at least once every month to verify that it will detect diversions of flow and shutdown the coating operation.

2. If any bypass line is opened, you shall include a description of why the bypass line was opened and the length of time it remained open in the semiannual compliance reports required in s. NR 465.25 (2).

(c) *Thermal oxidizers and catalytic oxidizers.* If you are using a thermal oxidizer or catalytic oxidizer as an add−on control device, including those used with concentrators or with carbon adsorbers to treat desorbed concentrate streams, you shall comply with the following requirements, as applicable, in addition to those specified in par. (a) 1.:

1. For a thermal oxidizer, install a gas temperature monitor in the firebox of the thermal oxidizer or in the duct immediately downstream of the firebox before any substantial heat exchange occurs.

2. For a catalytic oxidizer, install a gas temperature monitor in the gas stream immediately before the catalyst bed, and if you establish operating limits according to sub. (8) (b) 1. and 2., also install a gas temperature monitor in the gas stream immediately after the catalyst bed.

3. For each gas temperature monitoring device, comply with all of the following requirements:

a. Locate the temperature sensor in a position that provides a representative temperature.

b. Use a temperature sensor with a measurement sensitivity of 4°F or 0.75% of the temperature value, whichever is larger.

c. Shield the temperature sensor system from electromagnetic interference and chemical contaminants.

d. If a gas temperature chart recorder is used, ensure that it has a measurement sensitivity in the minor division of at least 20°F.

e. Perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owners manual. Following the electronic calibration, conduct a temperature sensor validation check in which a second or redundant temperature sensor placed nearby the process temperature sensor yields a reading within 30°F of the process temperature sensor's reading.

f. Any time the sensor exceeds the manufacturer's specified maximum operating temperature range, either conduct calibration and validation checks or install a new temperature sensor.

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g. At least monthly, inspect components for integrity and electrical connections for continuity, oxidation and galvanic corrosion.

(d) *Carbon adsorbers.* If you are using a carbon adsorber as an add−on control device, you shall monitor the total regeneration desorbing gas (e. g., steam or nitrogen) mass flow for each regeneration cycle and the carbon bed temperature after each regeneration and cooling cycle and comply with all of the following requirements, in addition to those specified in par. (a) 1. c. to e.:

1. The regeneration desorbing gas mass flow monitor shall be an integrating device having a measurement sensitivity of ±10%, capable of recording the total regeneration desorbing gas mass flow for each regeneration cycle.

2. The carbon bed temperature monitor shall have a measurement sensitivity of 1% of the temperature recorded or 1°F, whichever is greater, and shall be capable of recording the temperature within 15 minutes of completion of any carbon bed cooling cycle.

(e) *Condensers.* If you are using a condenser, you shall monitor the condenser outlet (product side) gas temperature and comply with all of the following requirements in addition to those specified in par. (a) 1.:

1. The gas temperature monitor shall have a measurement sensitivity of 1% of the temperature recorded or 1°F, whichever is greater.

2. The temperature monitor shall provide a gas temperature record at least once every 15 minutes.

(f) *Concentrators.* If you are using a concentrator, such as a zeolite wheel or rotary carbon bed concentrator, you shall comply with all of the following requirements, in addition to those specified in par. (a) 1.:

1. Install a temperature monitor in the desorption gas stream and meet the requirements in pars. (a) 1. and (c) 3.

2. Install a device to monitor pressure drop across the zeolite wheel or rotary carbon bed and meet all of the following requirements:

a. Locate the pressure sensor or sensors in or as close to a position that provides a representative measurement of the pressure.

b. Minimize or eliminate pulsating pressure, vibration and internal and external corrosion.

c. Use a gauge with a minimum tolerance of 0.5 inch of water or a transducer with a minimum tolerance of 1% of the pressure range.

d. Check the pressure tap daily.

e. Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

f. Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

g. At least monthly, inspect components for integrity, electrical connections for continuity, and mechanical connections for leakage.

(g) *Emission capture systems.* You shall comply with the following requirements, as applicable, in addition to those specified in par. (a) 1., for capture system monitoring:

1. For each flow measurement device, comply with all of the following requirements in addition to those specified in par. (a):

a. Locate a flow sensor in a position that provides a representative flow measurement in the duct from each capture device in the emission capture system to the add−on control device.

b. Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

c. Conduct a flow sensor calibration check at least semiannually.

d. At least monthly, inspect components for integrity, electrical connections for continuity, and mechanical connections for leakage.

2. For each pressure drop measurement device, comply with all of the following requirements in addition to those specified in par. (a):

a. Locate the pressure sensor or sensors in or as close to a position that provides a representative measurement of the pressure drop across each opening you are monitoring.

b. Minimize or eliminate pulsating pressure, vibration and internal and external corrosion.

c. Check pressure tap pluggage daily.

d. Using an inclined manometer with a measurement sensitivity of 0.0002 inch water, check gauge calibration quarterly and transducer calibration monthly.

e. Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

f. At least monthly, inspect components for integrity, electrical connections for continuity, and mechanical connections for leakage.

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Table 1

Operating Limits if Using the Emission Rate With Add−on Controls Option

If you are required to comply with operating limits by s. NR 465.23 (3), you shall comply with the applicable operating limits in this table.

For the following device:	You shall meet the following operating limits:	And you shall demonstrate continuous compliance with the operating limit by doing the following:
(1) Thermal oxidizer	(a) The average combustion temperature in any 3−hour period may not fall below the combustion temperature limit established according to s. NR 465.28 (8) (a).	1. Collecting the combustion temperature data according to s. NR 465.28 (9) (c). 2. Reducing the data to 3−hour block averages. 3. Maintaining the 3−hour average combustion temperature at or above the combustion temperature limit.
(2) Catalytic oxidizer	(a) The average temperature measured just before the catalyst bed in any 3−hour period may not fall below the limit established according to s. NR 465.28 (8) (b) and either par. (b) or (c).	1. Collecting the temperature data according to s. NR 465.28 (9) (c). 2. Reducing the data to 3−hour block averages temperatures before the catalyst bed. 3. Maintaining the 3−hour average temperature before the catalyst bed at or above the temperature limit.
	(b) Ensure that average temperature difference across the catalyst bed in any 3−hour period does not fall below the temperature difference limit established according to s. NR 465.28 (8) (b) 2.	1. Collecting the temperature data according to s. NR 465.28 (9) (c). 2. Reducing the data to 3−hour block difference across averages. 3. Maintaining the 3−hour average temperature difference at or above the temperature difference limit.
	(c) Develop and implement an inspection and maintenance plan according to s. NR 465.28 (8) (b) 4.	1. Maintaining an up−to−date inspection and maintenance plan, records of annual catalyst activity checks, records of the monthly inspections of the oxidizer system and records of the annual internal inspections of the catalyst bed. If a problem is discovered during a monthly or annual inspection required by s. NR 465.28 (8) (b) 4., you shall take corrective action as soon as practicable consistent with the manufacturer's recommendations.

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Table 1 − Continued

Operating Limits if Using the Emission Rate With Add−on Controls Option

For the following device:	You shall meet the following operating limits:	And you shall demonstrate continuous compliance with the operating limit by doing the following:
(3) Carbon adsorber	(a) The total regeneration desorbing gas, e.g., steam or nitrogen, mass flow for each carbon bed regeneration cycle may not fall below the total regeneration desorbing gas mass flow limit established according to s. NR 465.28 (8) (c).	1. Measuring the total regeneration desorbing gas, e.g., steam or nitrogen, mass flow for each regeneration cycle according to s. NR 465.28 (9) (d). 2. Maintaining the total regeneration desorbing gas mass flow at or above the mass flow limit.
	(b) The temperature of the carbon bed, after completing each regeneration and any cooling cycle, may not exceed the carbon bed temperature limit established according to s. NR 465.28 (8) (c).	1. Measuring the temperature of the carbon bed after completing each regeneration and any cooling cycle according to s. NR 465.28 (9) (d). 2. Operating the carbon beds such that each carbon bed is not returned to service until the recorded temperature of the carbon bed is at or below the temperature limit.
(4) Condenser	(a) The average condenser outlet, product side, gas temperature in any 3−hour period may not exceed the temperature limit established according to s. NR 465.28 (8) (d).	1. Collecting the condenser outlet, product side, gas temperature according to s. NR 465.28 (9) (e). 2. Reducing the data to 3−hour block averages. 3. Maintaining the 3−hour average gas temperature at the outlet at or below the temperature limit.
(5) Concentrators, including zeolite wheels and rotary carbon adsorbers	(a) The average gas temperature of the desorption concentrate stream in any 3−hour period may not fall below the limit established according to s. NR 465.28 (8) (e).	1. Collecting the temperature data according to s. NR 465.28 (9) (f). 2. Reducing the data to 3−hour block averages. 3. Maintaining the 3−hour average temperature at or above the temperature limit.
	(b) The average pressure drop of the dilute stream across the concentrator in any 3−hour period may not fall below the limit established according to s. NR 465.28 (8) (e).	1. Collecting the pressure drop data according to s. NR 465.28 (9) (f). 2. Reducing the pressure drop data to across the 3−hour block averages. 3. Maintaining the 3−hour average pressure drop at or above the pressure drop limit.

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Table 1 − Continued

Operating Limits if Using the Emission Rate With Add−on Controls Option

For the following device:	You shall meet the following operating limits:	And you shall demonstrate continuous compliance with the operating limit by doing the following:
(6) Emission capture system that is a PTE according to s. NR 465.28 (6) (a).	(a) The direction of the air flow at all times shall be into the enclosure, and either par. (b) or (c).	1. Collecting the direction of air flow, and either the facial velocity of air through all natural draft openings according to s. NR 465.28 (9) (g) 1. or the pressure drop across the enclosure according to s. NR 465.28 (9) (g) 2. 2. Maintaining the facial velocity of air flow through all natural draft openings or the pressure drop at or above the facial velocity limit or pressure drop limit, and maintaining the direction of air flow into the enclosure at all times.
	(b) The average facial velocity of air through all natural draft openings in the enclosure shall be at least 200 feet per minute.	1. See par. (a).
	(c) The pressure drop across the enclosure shall be at least 0.007 inches H_2O, as established in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).	1. See par. (a).
(7) Emission capture system that is not a PTE according to s. NR 465.28 (6) (a).	(a) The average gas volumetric flow rate or duct static pressure in each duct between a capture device and add−on control device inlet in any 3−hour period may not fall below the average volumetric flow rate or duct static pressure limit established for that capture device according to s. NR 465.28 (8) (f).	1. Collecting the gas volumetric flow rate or duct static pressure for each capture device according to s. NR 465.28 (9) (g). 2. Reducing the data to 3−hour block averages. 3. Maintaining the 3−hour average gas volumetric flow rate or duct static pressure for each capture device at or above the gas volumetric flow rate or duct static pressure limit.

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Table 2

Default Organic HAP Mass Fraction for Solvents and Solvent Blends

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data.

Solvents and solvent blends	CAS Number	Average organic HAP mass fraction	Typical organic HAP, percent by mass
(1) Toluene	108−88−3	1.0	Toluene
(2) Xylene(s)	1330−20−7	1.0	Xylenes, Ethylbenzene
(3) Hexane	110−54−3	0.5	n−Hexane
(4) n−Hexane	110−54−3	1.0	n−Hexane
(5) Ethylbenzene	100−41−4	1.0	Ethylbenzene
(6) Aliphatic 140		0	None
(7) Aromatic 100		0.02	1% Xylene, 1% Cumene
(8) Aromatic 150		0.09	Naphthalene
(9) Aromatic naphtha	64742−95−6	0.02	1% Xylene, 1% Cumene
(10) Aromatic solvent	64742−94−5	0.1	Naphthalene
(11) Exempt mineral spirits	8032−32−4	0	None
(12) Ligroines (VM & P)	8032−32−4	0	None
(13) Lactol spirits	64742−89−6	0.15	Toluene
(14) Low aromatic white spirit	64742−82−1	0	None
(15) Mineral spirits	64742−88−7	0.01	Xylenes
(16) Hydrotreated naphtha	64742−48−9	0	None
(17) Hydrotreated light distillate	64742−47−8	0.001	Toluene
(18) Stoddard solvent	8052−41−3	0.01	Xylenes
(19) Super high−flash naphtha	64742−95−6	0.05	Xylenes
(20) Varsol® solvent	8052−49−3	0.01	0.5% Xylenes, 0.5% Ethylbenzene
(21) VM & P naphtha	64742−89−8	0.06	3% Toluene, 3% Xylene
(22) Petroleum distillate mixture	68477−31−6	0.08	4% Naphthalene, 4% Biphenyl

Table 3

Default Organic HAP Mass Fraction for Petroleum Solvent Groups[a]

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data.

Solvent type	Average organic HAP mass fraction	Typical Organic HAP, percent by mass
Aliphatic[b]	0.03	1% Xylene, 1% Toluene and 1% Ethylbenzene
Aromatic[c]	0.06	4% Xylene, 1% Toluene and 1% Ethylbenzene

a: Use this table only if the solvent blend does not match any of the solvent blends in Table 2 and you only know whether the blend is aliphatic or aromatic.

b: e.g., mineral spirits 135, mineral spirits 150 EC, naphtha, mixed hydrocarbon, aliphatic hydrocarbon, aliphatic naphtha, naphthol spirits, petroleum spirits, petroleum oil, petroleum naphtha, solvent naphtha, solvent blend.

c: e.g., medium−flash naphtha, high−flash naphtha, aromatic naphtha, light aromatic naphtha, light aromatic hydrocarbons, aromatic hydrocarbons, light aromatic solvent.

History: CR 03−037: cr. Register March 2004 No. 579, eff. 4−1−04; **CR 05−040: renum. Tables 3 and 4 to be Tables 2 and 3, Register February 2006 No. 602, eff. 3−1−06.**

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Subchapter IV — Surface Coating of Plastic Parts and Products

NR 465.31 What this subchapter covers. (1) WHAT IS THE PURPOSE OF THIS SUBCHAPTER? This subchapter establishes national emission standards for hazardous air pollutants (NESHAP) for plastic parts and products surface coating facilities. This subchapter also establishes requirements to demonstrate initial and continuous compliance with the emission limits in s. NR 465.33 (1).

Note: This subchapter is based on the federal regulations contained in 40 CFR part 63 Subpart PPPP, as last revised April 26, 2004.

(2) AM I SUBJECT TO THIS SUBCHAPTER? (a) Plastic parts and products includes plastic components of the following types of products as well as the products themselves: motor vehicle parts and accessories for automobiles, trucks, recreational vehicles; sporting and recreational goods; toys; business machines; laboratory and medical equipment; and household and other consumer products. Except as provided in par. (c), the source category to which this subchapter applies is the surface coating of any plastic parts or products, as described in subd. 1., and includes the sub−categories listed in subds. 2. to 5.

1. Surface coating is the application of coating to a substrate. When application of coating to a substrate occurs, then surface coating also includes associated activities, such as surface preparation, cleaning, mixing and storage. However, these activities do not comprise surface coating if they are not directly related to the application of the coating. Coating application with hand−held, non−refillable aerosol containers, touch−up markers, marking pens or the application of paper film or plastic film which may be pre−coated with an adhesive by the manufacturer are not coating operations for the purposes of this subchapter.

2. The general use coating sub−category includes all surface coating operations that are not automotive lamp coating operations, thermoplastic olefin (TPO) coating operations or assembled on−road vehicle coating operations.

3. The automotive lamp coating sub−category includes the surface coating of plastic components of the body of an exterior automotive lamp, including head lamps, tail lamps, turn signals and marker lamps; typical coatings used are reflective agent coatings and clear topcoats. This sub−category does not include the coating of interior automotive lamps, such as dome lamps and instrument panel lamps.

4. The TPO coating sub−category includes the surface coating of TPO substrates; typical coatings used are adhesion promoters, color coatings, clear coatings and topcoats. The coating of TPO substrates on fully assembled on−road vehicles is not included in the TPO coating sub−category.

5. The assembled on−road vehicle coating sub−category includes surface coating of fully assembled motor vehicles and trailers intended for on−road use, including automobiles, light−duty trucks, heavy duty trucks and buses that have been repaired after a collision or otherwise repainted; fleet delivery trucks; and motor homes and other recreational vehicles, including camping trailers and fifth wheels. This sub−category also includes the incidental coating of parts that are removed from the fully assembled on−road vehicle to facilitate concurrent coating of all parts associated with the vehicle. The assembled on−road vehicle coating sub−category does not include the surface coating of plastic parts prior to their attachment to an on−road vehicle on an original equipment manufacturer's assembly line. The assembled on−road vehicle coating sub−category also does not include the use of adhesives, sealants and caulks used in assembling on−road vehicles. Body fillers used to correct small surface defects and rubbing compounds used to remove surface scratches are not considered coatings subject to this subchapter.

(b) You are subject to this subchapter if you own or operate a new, reconstructed or existing affected source, as defined in sub. (3), that uses 378 liters (100 gallons) per year, or more, of coatings that contain hazardous air pollutants (HAP) in the surface coating of plastic parts and products defined in par. (a); and that is a major source, is located at a major source or is part of a major source of emissions of HAP. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year or any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year. You do not need to include coatings that meet the definition of non−HAP coating in s. NR 465.32 (27) in determining whether you use 378 liters (100 gallons) per year, or more, of coatings in the surface coating of plastic parts and products.

(c) This subchapter does not apply to surface coating or a coating operation that meets any of the criteria of subds. 1. to 16.

1. A coating operation conducted at a facility where the facility uses only coatings, thinners and other additives, and cleaning materials that contain no organic HAP, as determined according to s. NR 465.46 (2) (a).

2. Surface coating operations that occur at research or laboratory facilities, or are part of janitorial, building and facility maintenance operations, or that occur at hobby shops that are operated for noncommercial purposes.

3. The surface coating of plastic parts and products performed on−site at installations owned or operated by the armed forces of the United States, including the Coast Guard and the National Guard of any state, or the National Aeronautics and Space Administration, or the surface coating of military munitions manufactured by or for the armed forces of the United States, including the Coast Guard and the National Guard of any state.

4. Surface coating where plastic is extruded onto plastic parts or products to form a coating.

5. Surface coating of magnet wire.

6. In−mold coating operations or gel coating operations in the manufacture of reinforced plastic composite parts that meet the applicability criteria for reinforced plastics composites production in 40 CFR part 63, Subpart WWWW.

7. Surface coating of plastic components of wood furniture that meet the applicability criteria for wood furniture manufacturing in s. NR 465.01 (1).

8. Surface coating of plastic components of large appliances that meet the applicability criteria for large appliance surface coating in s. NR 465.21 (2).

9. Surface coating of plastic components of metal furniture that meet the applicability criteria for metal furniture surface coating in 40 CFR part 63, Subpart RRRR.

10. Surface coating of plastic components of wood building products that meet the applicability criteria for wood building products surface coating in 40 CFR part 63, Subpart QQQQ.

11. Surface coating of plastic components of aerospace vehicles that meet the applicability criteria for aerospace manufacturing and rework in 40 CFR part 63, Subpart GG.

12. Surface coating of plastic parts intended for use in an aerospace vehicle or component using specialty coatings as defined in 40 CFR part 63, Subpart GG, Appendix A.

13. Surface coating of plastic components of ships that meet the applicability criteria for shipbuilding and ship repair in 40 CFR part 63, Subpart II.

14. Surface coating of plastic using a web coating process that meets the applicability criteria for paper and other web coating in 40 CFR part 63, Subpart JJJJ.

15. Surface coating of fiberglass boats or parts of fiberglass boats, including the use of assembly adhesives, where the facility meets the applicability criteria for boat manufacturing, 40 CFR part 63, Subpart VVVV, except where the surface coating of the boat is a post−mold coating operation performed on personal

watercraft or parts of personal watercraft. This subchapter does apply to post−mold coating operations performed on personal watercraft and parts of personal watercraft.

16. Surface coating of plastic components of automobiles and light−duty trucks that meet the applicability criteria in 40 CFR 63.3082(b) of the surface coating of automobiles and light−duty trucks NESHAP in 40 CFR part 63, Subpart IIII, at a facility that meets the applicability criteria in 40 CFR 63.3081(b).

(d) If your facility meets the applicability criteria in 40 CFR 63.3081(b) of the surface coating of automobiles and light−duty trucks NESHAP in 40 CFR part 63, Subpart IIII, and you perform surface coating of plastic parts or products that meets both the applicability criteria in 40 CFR 63.3082(c) and the applicability criteria of this subchapter, then, for the surface coating of any or all of your plastic parts or products that meets the applicability criteria in 40 CFR 63.3082(c), you may choose to comply with the requirements of 40 CFR part 63, Subpart IIII, in lieu of complying with this subchapter. Surface coating operations on plastic parts or products not intended for use in automobiles or light−duty trucks, such as parts for motorcycles or lawn mowers, cannot be made part of your affected source under 40 CFR part 63, Subpart IIII.

(e) If you own or operate an affected source that meets the applicability criteria of this subchapter and at the same facility you also perform surface coating that meets the applicability criteria of any other final surface coating NESHAP in 40 CFR part 63 or this chapter, you may choose to comply as specified in subd. 1., 2. or 3.

1. You may have each surface coating operation that meets the applicability criteria of a separate NESHAP comply with that NESHAP separately.

2. You may comply with the emission limit in s. NR 465.33 (1) representing the predominant surface coating activity at your facility, as determined according to subd. 2. a. and b. However, you may not establish assembled on−road vehicle or automotive lamp coating operations as the predominant activity. You may not consider any surface coating activity that is subject to the surface coating of automobiles and light−duty trucks NESHAP in 40 CFR part 63, Subpart IIII, in determining the predominant surface coating activity at your facility.

a. If a surface coating operation accounts for 90% or more of the surface coating activity at your facility, then that is the predominant activity and compliance with the emission limits specified in s. NR 465.33 (1) of the predominant activity for all surface coating operations constitutes compliance with these and other applicable surface coating NESHAP. In determining predominant activity, you shall include coating activities that meet the applicability criteria of other surface coating NESHAP and constitute more than one percent of total coating activities at your facility. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than one percent of coating activities need not be included in the determination of predominant activity but shall be included in the compliance calculation.

b. You shall use kilograms (kg) (pounds (lb)) of solids used as a measure of relative surface coating activity over a representative period of operation. You may estimate the relative mass of coating solids used from parameters other than coating consumption and mass solids content. The determination of predominant activity shall accurately reflect current and projected coating operations and shall be verifiable through appropriate documentation. The use of parameters other than coating consumption and mass solids content shall be approved by the administrator. You may use data for any reasonable time period of at least one year in determining the relative amount of coating activity, as long as they represent the way the source will continue to operate in the future and are approved by the administrator. You shall determine the predominant activity at your facility and submit the results of that determination with the initial notification required by s. NR 465.35 (1) (b). You shall also determine predominant activity annually and include the determination in the next semi−annual compliance report required by s. NR 465.35 (2) (a).

Note: An example of parameters other than coating consumption and mass solids content for estimating the relative mass of coating solids used would be design specifications for the parts or products coated and the number of items produced.

3. You may comply with a facility−specific emission limit calculated according to s. NR 465.33 (1) (c) 2. from the relative amount of coating activity that is subject to each emission limit in s. NR 465.33 (1) (a) and (b). If you elect to comply using the facility−specific emission limit alternative, then compliance with the facility−specific emission limit and the emission limits in s. NR 465.33 (1) (a) and (b) for all surface coating operations constitutes compliance with this subchapter and other applicable surface coating NESHAP. In calculating a facility−specific emission limit, you shall include coating activities that meet the applicability criteria of other surface coating NESHAP and constitute more than one percent of total coating activities at your facility. You may not consider any surface coating activity that is subject to the surface coating of automobiles and light−duty trucks NESHAP in 40 CFR part 63, Subpart IIII, in determining a facility−specific emission limit for your facility. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than one percent of total coating activities need not be included in the calculation of the facility−specific emission limit but shall be included in the compliance calculations.

(3) WHAT PARTS OF MY PLANT DOES THIS SUBCHAPTER COVER? (a) This subchapter applies to each new, reconstructed and existing affected source within each of the 4 sub−categories listed in sub. (2) (a).

(b) The affected source is the collection of all of the items listed in subds. 1. to 4. that are used for surface coating of plastic parts and products within each sub−category.

1. All coating operations.

2. All storage containers and mixing vessels in which coatings, thinners and other additives, and cleaning materials are stored or mixed.

3. All manual and automated equipment and containers used for conveying coatings, thinners and other additives, and cleaning materials.

4. All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.

(c) An affected source is a new source if it meets the criteria in subd. 1. and the criteria in either subd. 2. or 3.

1. You commenced the construction of the source after December 4, 2002 by installing new coating equipment.

2. The new coating equipment is used to coat plastic parts and products at a source where no plastic parts surface coating was previously performed.

3. The new coating equipment is used to perform plastic parts and products coating in a sub−category that was not previously performed.

(d) An affected source is reconstructed if you meet the criteria as defined in s. NR 460.02 (32).

(e) An affected source is existing if it is not new or reconstructed.

(4) WHEN DO I HAVE TO COMPLY WITH THIS SUBCHAPTER? The date by which you shall comply with this subchapter is called the compliance date. The compliance date for each type of affected source is specified in pars. (a) to (c). The compliance date begins the initial compliance period during which you conduct the initial compliance demonstration described in ss. NR 465.36 (1), 465.37 (1) and 465.38 (1).

(a) For a new or reconstructed affected source, the compliance date is the applicable date in subd. 1. or 2.

1. If the initial startup of your new or reconstructed affected source is on or before April 19, 2004, the compliance date is April 19, 2004.

2. If the initial startup of your new or reconstructed affected source occurs after April 19, 2004, the compliance date is the date of initial startup of your affected source.

(b) For an existing affected source, the compliance date is April 19, 2007.

(c) For an area source that increases its emissions or its potential to emit so that it becomes a major source of HAP emissions, the compliance date is specified in subds. 1. and 2.

1. For any portion of the source that becomes a new or reconstructed affected source subject to this subchapter, the compliance date is the date of initial startup of the affected source or April 19, 2004, whichever is later.

2. For any portion of the source that becomes an existing affected source subject to this subchapter, the compliance date is the date one year after the area source becomes a major source or April 19, 2007, whichever is later.

(d) You shall meet the notification requirements in s. NR 465.35 (1) according to the dates specified in that subsection and in ch. NR 460. Some of the notifications need to be submitted before the compliance dates described in pars. (a) to (c).

History: CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.

NR 465.32 Definitions that apply to this subchapter. For terms not defined in this section, the definitions contained in chs. NR 400 and 460 apply to the terms in this subchapter, with definitions in ch. NR 460 taking precedence over definitions in ch. NR 400. If this section defines a term which is also defined in ch. NR 400 or 460, the definition in this section applies in this subchapter. In this subchapter:

(1) "Additive" means a material that is added to a coating after purchase from a supplier, such as catalysts, activators and accelerators.

(2) "Add−on control" means an air pollution control device, such as a thermal oxidizer or carbon adsorber, that reduces pollution in an air stream by destruction or removal before discharge to the atmosphere.

(3) "Adhesive" or "adhesive coating" means any chemical substance that is applied for the purpose of bonding 2 surfaces together. Products used on humans and animals, adhesive tape, contact paper or any other product with an adhesive incorporated onto or in an inert substrate are not considered adhesives under this subchapter.

(4) "Assembled on−road vehicle coating" means any coating operation in which coating is applied to the surface of some component or surface of a fully assembled motor vehicle or trailer intended for on−road use, including components or surfaces on automobiles and light−duty trucks that have been repaired after a collision or otherwise repainted, fleet delivery trucks, and motor homes and other recreational vehicles, including camping trailers and fifth wheels. Assembled on−road vehicle coating includes the concurrent coating of parts of the assembled on−road vehicle that are painted off−vehicle to protect systems, equipment, or to allow full coverage. Assembled on−road vehicle coating does not include surface coating operations that meet the applicability criteria of the automobiles and light−duty trucks NESHAP. Assembled on−road vehicle coating also does not include the use of adhesives, sealants and caulks used in assembling on−road vehicles.

(5) "Automotive lamp coating" means any coating operation in which coating is applied to the surface of some component of the body of an exterior automotive lamp, including the application of reflective argent coatings and clear topcoats. Exterior automotive lamps include head lamps, tail lamps, turn signals, brake lights and side marker lights. Automotive lamp coating does not include any coating operation performed on an assembled on−road vehicle.

(6) "Capture device" means a hood, enclosure, room, floor sweep or other means of containing or collecting emissions and directing those emissions into an add−on air pollution control device.

(7) "Capture efficiency" or "capture system efficiency" means the portion, expressed as a percentage, of the pollutants from an emission source that is delivered to an add−on control device.

(8) "Capture system" means one or more capture devices intended to collect emissions generated by a coating operation in the use of coatings or cleaning materials, both at the point of application and at subsequent points where emissions from the coatings and cleaning materials occur, such as flash−off, drying or curing. As used in this subchapter, multiple capture devices that collect emissions generated by a coating operation are considered a single capture system.

(9) "Cleaning material" means a solvent used to remove contaminants and other materials, such as dirt, grease, oil and dried or wet coating, from a substrate before or after coating application or from equipment associated with a coating operation, such as spray booths, spray guns, racks, tanks and hangers. Thus, it includes any cleaning material used on substrates or equipment or both.

(10) "Coating" means a material applied to a substrate for decorative, protective or functional purposes. These materials include paints, sealants, liquid plastic coatings, caulks, inks, adhesives and masking agents. Decorative, protective or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances, or paper film or plastic film which may be pre−coated with an adhesive by the film manufacturer, are not considered coatings for the purposes of this subchapter. A liquid plastic coating means a coating made from fine particle−size polyvinyl chloride in solution, also referred to as a plastisol.

(11) "Coating operation" means equipment used to apply cleaning materials to a substrate to prepare it for coating application or to remove dried coating; to apply coating to a substrate and to dry or cure the coating after application; or to clean coating operation equipment. A single coating operation may include any combination of these types of equipment, but always includes at least the point at which a given quantity of coating or cleaning material is applied to a given part and all subsequent points in the affected source where organic HAP are emitted from the specific quantity of coating or cleaning material on the specific part. There may be multiple coating operations in an affected source. Coating application with hand−held, non−refillable aerosol containers, touch−up markers or marking pens is not a coating operation for the purposes of this subchapter.

(12) "Coatings solids" means the nonvolatile portion of the coating that makes up the dry film.

(13) "Continuous parameter monitoring system" or "CPMS" means the total equipment that may be required to meet the data acquisition and availability requirements of this subchapter, used to sample, condition, if applicable, analyze, and provide a record of coating operation, or capture system, or add−on control device parameters.

(14) "Controlled coating operation" means a coating operation from which some or all of the organic HAP emissions are routed through an emission capture system and add−on control device.

(15) "Deviation" means any instance in which an affected source subject to this subchapter, or an owner or operator of an affected source, does any of the following:

(a) Fails to meet any requirement or obligation established by this subchapter, including any emission limit or operating limit or work practice standard.

(b) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subchapter and that is included in the operating permit for any affected source required to obtain an operating permit.

(c) Fails to meet any emission limit, or operating limit, or work practice standard in this subchapter during startup, shutdown or malfunction, regardless of whether or not the failure is permitted by this subchapter.

(16) "Emission limit" means the aggregate of all requirements associated with a compliance option including emission limit, operating limit and work practice standard.

(17) "Enclosure" means a structure that surrounds a source of emissions and captures and directs the emissions to an add−on control device.

(18) "Exempt compound" means a specific compound that is not considered a VOC due to negligible photochemical reactivity. The exempt compounds are listed in s. NR 400.02 (162).

(19) "Facility maintenance" means the routine repair or renovation, including the surface coating, of the tools, equipment, machinery and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity.

(20) "General use coating" means any coating operation that is not an automotive lamp, thermoplastic olefin or assembled on−road vehicle coating operation.

(21) "Hobby shop" means any surface coating operation, located at an affected source, that is used exclusively for personal, noncommercial purposes by the affected source's employees or assigned personnel.

(22) "Initial startup" means the first time equipment is brought on line in a facility.

(23) "Manufacturer's formulation data" means data on a material, such as a coating, that are supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material with the test methods specified in s. NR 465.36 (2). Manufacturer's formulation data may include information on density, organic HAP content, volatile organic matter content and coating solids content.

(24) "Mass fraction of coating solids" means the ratio of the mass of solids, also known as the mass of nonvolatiles, to the mass of a coating in which it is contained; kg (lb) of coating solids per kg (lb) of coating.

(25) "Mass fraction of organic HAP" means the ratio of the mass of organic HAP to the mass of a material in which it is contained, expressed as kg (lb) of organic HAP per kg (lb) of material.

(26) "Month" means a calendar month or a pre−specified period of 28 days to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

(27) "Non−HAP coating" means, for the purposes of this subchapter, a coating that contains no more than 0.1% by mass of any individual organic HAP that is an OSHA−defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and no more than 1.0% by mass for any other individual HAP.

(28) "Organic HAP content" means the mass of organic HAP emitted per mass of coating solids used for a coating calculated using Equation 1 of s. NR 465.36 (2). The organic HAP content is determined for the coating in the condition it is in when received from its manufacturer or supplier and does not account for any alteration after receipt. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, organic HAP content is the mass of organic HAP that is emitted, rather than the organic HAP content of the coating as it is received.

(29) "Permanent total enclosure" or "PTE" means a permanently installed enclosure that meets the criteria of Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for a PTE and that directs all the exhaust gases from the enclosure to an add−on control device.

(30) "Personal watercraft" means a boat which uses an inboard motor powering a water jet pump as its primary source of motive power and which is designed to be operated by a person or persons sitting, standing or kneeling on the vessel, rather than in the conventional manner of sitting or standing inside the vessel.

(31) "Plastic part and product" means any piece or combination of pieces of which at least one has been formed from one or more resins. These pieces may be solid, porous, flexible or rigid.

(32) "Protective oil" means an organic material that is applied to metal for the purpose of providing lubrication or protection from corrosion without forming a solid film. This definition of protective oil includes lubricating oils, evaporative oils, those that evaporate completely, and extrusion oils.

(33) "Reactive adhesive" means adhesive systems composed, in part, of volatile monomers that react during the adhesive curing reaction, and, as a result, do not evolve from the film during use. These volatile components instead become integral parts of the adhesive through chemical reaction. At least 70% of the liquid components of the system, excluding water, react during the process.

(34) "Research or laboratory facility" means a facility whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and is not engaged in the manufacture of final or intermediate products for commercial purposes, except in a de minimis manner.

(35) "Responsible official" has the meaning given in s. NR 400.02 (136).

(36) "Surface preparation" means use of a cleaning material on a portion of or all of a substrate. This includes use of a cleaning material to remove dried coating, which is sometimes called depainting.

(37) "Temporary total enclosure" means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source as defined in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

(38) "Thermoplastic olefin" or "TPO" means polyolefins which are blends of polypropylene, polyethylene and its copolymers. This also includes blends of TPO with polypropylene and polypropylene alloys, including thermoplastic elastomer (TPE), TPE polyurethane (TPU), TPE polyester (TPEE), TPE polyamide (TPAE) and thermoplastic elastomer polyvinyl chloride (TPVC).

(39) "Thermoplastic olefin coating" means any coating operation in which the coatings are components of a system of coatings applied to a TPO substrate, including adhesion promoters, primers, color coatings, clear coatings and topcoats. Thermoplastic olefin coating does not include the coating of TPO substrates on assembled on−road vehicles.

(40) "Thinner" means an organic solvent that is added to a coating after the coating is received from the supplier.

(41) "Total volatile hydrocarbon" or "TVH" means the total amount of nonaqueous volatile organic matter determined according to Methods 204 and 204A to 204F in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), and substituting the term TVH each place in the methods where the term VOC is used. The TVH includes both VOC and non−VOC.

(42) "Uncontrolled coating operation" means a coating operation from which none of the organic HAP emissions are

routed through an emission capture system and add−on control device.

(43) "Wastewater" means water that is generated in a coating operation and is collected, stored or treated prior to being discarded or discharged.

(44) "You" or "your" means the owner or operator of a facility that applies coatings to plastic parts or products.

History: **CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.**

NR 465.33 Emission limits. (1) WHAT EMISSION LIMITS MUST I MEET? (a) For a new or reconstructed affected source, you shall limit organic HAP emissions to the atmosphere from the affected source to the applicable limit specified in subds. 1. to 4., except as specified in par. (c), determined according to the requirements in s. NR 465.36 (2), 465.37 (2) or 465.38 (2).

1. For each new or reconstructed general use coating affected source, limit organic HAP emissions to no more than 0.16 kg (0.16 lb) of organic HAP emitted per kg (lb) of coating solids used during each 12−month compliance period.

2. For each new or reconstructed automotive lamp coating affected source, limit organic HAP emissions to no more than 0.26 kg (0.26 lb) of organic HAP emitted per kg (lb) of coating solids used during each 12−month compliance period.

3. For each new or reconstructed thermoplastic olefin coating affected source, limit organic HAP emissions to no more than 0.22 kg (0.22 lb) of organic HAP emitted per kg (lb) of coating solids used during each 12−month compliance period.

4. For each new or reconstructed assembled on−road vehicle coating affected source, limit organic HAP emissions to no more than 1.34 kg (1.34 lb) of organic HAP emitted per kg (lb) of coating solids used during each 12−month compliance period.

(b) For an existing affected source, you shall limit organic HAP emissions to the atmosphere from the affected source to the applicable limit specified in subds. 1. to 4., except as specified in par. (c), determined according to the requirements in s. NR 465.36 (2), 465.37 (2) or 465.38 (2).

1. For each existing general use coating affected source, limit organic HAP emissions to no more than 0.16 kg (0.16 lb) of organic HAP emitted per kg (lb) of coating solids used during each 12−month compliance period.

2. For each existing automotive lamp coating affected source, limit organic HAP emissions to no more than 0.45 kg (0.45 lb) of organic HAP emitted per kg (lb) of coating solids used during each 12−month compliance period.

3. For each existing thermoplastic olefin coating affected source, limit organic HAP emissions to no more than 0.26 kg (0.26 lb) of organic HAP emitted per kg (lb) of coating solids used during each 12−month compliance period.

4. For each existing assembled on−road vehicle coating affected source, limit organic HAP emissions to no more than 1.34 kg (1.34 lb) of organic HAP emitted per kg (lb) of coating solids used during each 12−month compliance period.

(c) If your facility's surface coating operations meet the applicability criteria of more than one of the sub−category emission limits specified in par. (a) or (b), you may comply separately with each sub−category emission limit or comply using one of the alternatives in subd. 1. or 2.

1. If the general use or TPO surface coating operations subject to only one of the emission limits specified in par. (a) 1. or 3. or (b) 1. or 3. account for 90% or more of the surface coating activity at your facility, then compliance with that emission limit for all surface coating operations constitutes compliance with the other applicable emission limits. You shall use kilograms or pounds of solids used as a measure of relative surface coating activity over a representative period of operation. You may estimate the relative mass of coating solids used from parameters other than coating consumption and mass solids content. The determination of predominant activity shall accurately reflect current and projected coating operations and shall be verifiable through appropriate documentation. The use of parameters other than coating consumption and mass solids content shall be approved by the administrator. You may use data for any reasonable time period of at least one year in determining the relative amount of coating activity, as long as they represent the way the source will continue to operate in the future and are approved by the administrator. You shall determine the predominant activity at your facility and submit the results of that determination with the initial notification required by s. NR 465.35 (1) (b). Additionally, you shall determine the facility's predominant activity annually and include the determination in the next semi−annual compliance report required by s. NR 465.35 (2) (a).

Note: An example of parameters other than coating consumption and mass solids content for estimating the relative mass of coating solids used would be design specifications for the parts or products coated and the number of items produced.

2. You may calculate and comply with a facility−specific emission limit as described in subd. 2. a. to c. If you elect to comply using the facility−specific emission limit alternative, then compliance with the facility−specific emission limit and the emission limits in pars. (a) and (b) for all surface coating operations constitutes compliance with this and other applicable surface coating NESHAP. In calculating a facility−specific emission limit, you shall include coating activities that meet the applicability criteria of the other sub−categories and constitute more than one percent of total coating activities. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than one percent of coating activities need not be included in the determination of predominant activity but shall be included in the compliance calculation.

a. You are required to calculate the facility−specific emission limit for your facility when you submit the notification of compliance status required in s. NR 465.35 (1) (c), and on a monthly basis afterward using the coating data for the relevant 12−month compliance period.

b. Use Equation 1 of this subsection to calculate the facility−specific emission limit for your surface coating operations for each 12−month compliance period:

$$\text{Facility} - \text{Specific Emission Limit} = \frac{\sum_{i=1}^{n} (\text{Limit}_i)\ (\text{Solids}_i)}{\sum_{i=1}^{n} (\text{Solids}_i)}$$

(Equation 1)

where:

Facility−specific emission limit is the facility−specific emission limit for each 12−month compliance period, kg (lb) of organic HAP per kg (lb) of coating solids used

Limit_i is the new source or existing source emission limit applicable to coating operation, i, included in the facility−specific emission limit, converted to kg (lb) of organic HAP per kg (lb) of coating solids used, if the emission limit is not already in those units. All emission limits included in the facility−specific emission limit shall be in the same units.

Solids_i is the kg (lb) of solids used in coating operation, i, in the 12−month compliance period that is subject to emission limit, i. You may estimate the mass of coating solids used from parameters

other than coating consumption and mass solids content. The use of parameters other than coating consumption and mass solids content shall be approved by the administrator.

n is the number of different coating operations included in the facility−specific emission limit

Note: An example of parameters other than coating consumption and mass solids content for estimating the relative mass of coating solids used would be design specifications for the parts or products coated and the number of items produced.

c. If you need to convert an emission limit in another surface coating NESHAP from kg (lb) of organic HAP per liter (gallon) of coating solids used to kg (lb) of organic HAP per kg (lb) of coating solids used, you shall use the default solids density of 1.50 kg solids per liter of coating solids (12.5 lb of solids per gallon of coating solids).

(2) WHAT ARE MY OPTIONS FOR MEETING THE EMISSION LIMITS? You shall include all coatings, thinners and other additives, and cleaning materials used in the affected source when determining whether the organic HAP emission rate is equal to or less than the applicable emission limit in sub. (1). To make this determination, you shall use at least one of the 3 compliance options listed in pars. (a) to (c). You may apply any of the compliance options to an individual coating operation, or to multiple coating operations as a group, or to the entire affected source. You may use different compliance options for different coating operations, or at different times on the same coating operation. You may employ different compliance options when different coatings are applied to the same part, or when the same coating is applied to different parts. However, you may not use different compliance options at the same time on the same coating operation. If you switch between compliance options for any coating operation or group of coating operations, you shall document this switch as required by s. NR 465.35 (3) (c), and you shall report it in the next semiannual compliance report required in s. NR 465.35 (2).

(a) *Compliant material option.* You shall meet all the requirements of s. NR 465.36 to demonstrate compliance with the applicable emission limit in sub. (1) using this option. To use this option, you shall demonstrate that the organic HAP content of each coating used in the coating operation or operations is less than or equal to the applicable emission limit in sub. (1), and that each thinner or other additive, and cleaning material used contains no organic HAP.

(b) *Emission rate without add−on controls option.* You shall meet all the requirements of s. NR 465.37 to demonstrate compliance with the emission limit in sub. (1) using this option. To use this option, you shall demonstrate that, based on the coatings, thinners and other additives, and cleaning materials used in the coating operation or operations, the organic HAP emission rate for the coating operation or operations is less than or equal to the applicable emission limit in sub. (1), calculated as a rolling 12−month emission rate and determined on a monthly basis.

(c) *Emission rate with add−on controls option.* You shall meet all the requirements of s. NR 465.38 to demonstrate compliance with the emission limits in sub. (1), the operating limits in sub. (3) and the work practice standards in sub. (4) using this option. To use this option, you shall demonstrate that, based on the coatings, thinners and other additives, and cleaning materials used in the coating operation or operations, and the emissions reductions achieved by emission capture systems and add−on controls, the organic HAP emission rate for the coating operation or operations is less than or equal to the applicable emission limit in sub. (1), calculated as a rolling 12−month emission rate and determined on a monthly basis. If you use this compliance option, you shall also demonstrate that all emission capture systems and add−on control devices for the coating operation or operations meet the operating limits required in sub. (3), except for solvent recovery systems for which you conduct liquid−liquid material balances according to s. NR 465.38 (2) (j), and that you meet the work practice standards required in sub. (4).

(3) WHAT OPERATING LIMITS MUST I MEET? (a) For any coating operation or operations on which you use the compliant material option in sub. (2) (a) or the emission rate without add−on controls option in sub. (2) (b), you are not required to meet any operating limits.

(b) For any controlled coating operation or operations on which you use the emission rate with add−on controls option in sub. (2) (c), except those for which you use a solvent recovery system and conduct a liquid−liquid material balance according to s. NR 465.38 (2) (j), you shall meet the operating limits specified in Table 1 of this subchapter. These operating limits apply to the emission capture and control systems on the coating operation or operations for which you use this option, and you shall establish the operating limits during the performance test according to the requirements in s. NR 465.38 (8). You shall meet the operating limits at all times after you establish them.

(c) If you use an add−on control device other than those listed in Table 1 of this subchapter, or wish to monitor an alternative parameter and comply with a different operating limit, you shall apply to the administrator for approval of alternative monitoring under 40 CFR 63.8(f).

(4) WHAT WORK PRACTICE STANDARDS MUST I MEET? (a) For any coating operation or operations on which you use the compliant material option in sub. (2) (a) or the emission rate without add−on controls option in sub. (2) (b), you are not required to meet any work practice standards.

(b) If you use the emission rate with add−on controls option in sub. (2) (c), you shall develop and implement a work practice plan to minimize organic HAP emissions from the storage, mixing and conveying of coatings, thinners and other additives, and cleaning materials used in, and waste materials generated by the controlled coating operations for which you use this option; or you shall meet an alternative standard as provided in par. (c). The plan shall specify practices and procedures to ensure that, at a minimum, the elements specified in subds. 1. to 5. are implemented.

1. All organic−HAP−containing coatings, thinners and other additives, cleaning materials, and waste materials shall be stored in closed containers.

2. Spills of organic−HAP−containing coatings, thinners and other additives, cleaning materials, and waste materials shall be minimized.

3. Organic−HAP−containing coatings, thinners and other additives, cleaning materials, and waste materials shall be conveyed from one location to another in closed containers or pipes.

4. Mixing vessels which contain organic−HAP−containing coatings and other materials shall be closed except when adding to, removing or mixing the contents.

5. Emissions of organic HAP shall be minimized during cleaning of storage, mixing and conveying equipment.

(c) As provided in 40 CFR 63.6(g), the U.S. environmental protection agency may choose to grant you permission to use an alternative to the work practice standards in this subsection.

History: CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.

NR 465.34 General compliance requirements. (1) WHAT ARE MY GENERAL REQUIREMENTS FOR COMPLYING WITH THIS SUBCHAPTER? (a) You shall be in compliance with the emission limits in this subchapter as specified in subds. 1. and 2.

1. Any coating operation for which you use the compliant material option or the emission rate without add−on controls option shall be, as specified in s. NR 465.33 (2) (a) and (b), in compliance with the applicable emission limit in s. NR 465.33 (1) at all times.

2. Any coating operation for which you use the emission rate with add−on controls option shall be, as specified in s. NR 465.33 (2) (c), in compliance with the emission limits specified in subd. 2. a. to c.

a. The coating operation shall be in compliance with the applicable emission limit in s. NR 465.33 (1) at all times except during periods of startup, shutdown and malfunction.

b. The coating operation shall be in compliance with the operating limits for emission capture systems and add−on control devices required by s. NR 465.33 (3) at all times except during periods of startup, shutdown and malfunction, and except for solvent recovery systems for which you conduct liquid−liquid material balances according to s. NR 465.38 (2) (j).

c. The coating operation shall be in compliance with the work practice standards in s. NR 465.33 (4) at all times.

(b) You shall always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for purposes of complying with this subchapter, according to the provisions in s. NR 460.05 (4) (a) 1.

(c) If your affected source uses an emission capture system and add−on control device, you shall develop and implement a written startup, shutdown and malfunction plan according to the provisions in s. NR 460.05 (4) (c). The plan shall address the startup, shutdown and corrective actions in the event of a malfunction of the emission capture system or the add−on control device. The plan shall also address any coating operation equipment that may cause increased emissions or that would affect capture efficiency if the process equipment malfunctions, such as conveyors that move parts among enclosures.

(2) WHAT PARTS OF THE GENERAL PROVISIONS APPLY TO ME? You shall comply with the applicable general provisions requirements in ch. NR 460. Appendix PPPP in ch. NR 460 shows which parts of the general provisions in ch. NR 460 apply to you.

History: CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.

NR 465.35 Notifications, reports and records. (1) WHAT NOTIFICATIONS MUST I SUBMIT? (a) *General.* You shall submit the notifications in ss. NR 460.06 (2), 460.07 (6) (c) and 460.08 (2) to (5) and (8) that apply to you by the dates specified in those sections, except as provided in pars. (b) and (c).

(b) *Initial notification.* You shall submit the initial notification required by s. NR 460.08 (2) for a new or reconstructed affected source no later than 120 days after initial startup. For an existing affected source, you shall submit the initial notification no later than one year after April 19, 2004. If you are using compliance with the surface coating of automobiles and light−duty trucks NESHAP in 40 CFR part 63, Subpart IIII, as provided for under s. NR 465.31 (2) (d) to constitute compliance with this subchapter for any or all of your plastic parts coating operations, then you shall include a statement to this effect in your initial notification, and no other notifications are required under this subchapter in regard to those plastic parts coating operations. If you are complying with another NESHAP that constitutes the predominant activity at your facility under s. NR 465.31 (2) (e) 2. to constitute compliance with this subchapter for your plastic parts coating operations, then you shall include a statement to this effect in your initial notification, and no other notifications are required under this subchapter in regard to those plastic parts coating operations.

(c) *Notification of compliance status.* You shall submit the notification of compliance status required by s. NR 460.08 (8) no later than 30 calendar days following the end of the initial compliance period described in s. NR 465.36 (1), 465.37 (1) or 465.38 (1) that applies to your affected source. The notification of compliance status shall contain the information specified in subds. 1. to 11. and in s. NR 460.08 (8).

1. Company name and address.

2. Statement by a responsible official with that official's name, title and signature, certifying the truth, accuracy and completeness of the content of the report.

3. Date of the report and beginning and ending dates of the reporting period. The reporting period is the initial compliance period described in s. NR 465.36 (1), 465.37 (1) or 465.38 (1) that applies to your affected source.

4. Identification of the compliance option or options specified in s. NR 465.33 (2) that you used on each coating operation in the affected source during the initial compliance period.

5. Statement of whether or not the affected source achieved the emission limits in s. NR 465.33 (1) for the initial compliance period.

6. If you had a deviation, include the information in subd. 6. a. and b.

a. A description and statement of the cause of the deviation.

b. If you failed to meet the applicable emission limit in s. NR 465.33 (1), include all the calculations you used to determine the kg (lb) of organic HAP emitted per kg (lb) of coating solids used. You do not need to submit information provided by the materials' suppliers or manufacturers, or test reports.

7. For each of the data items listed in subd. 7. a. to d. that is required by the compliance options you used to demonstrate compliance with the emission limit in s. NR 465.33 (1), include an example of how you determined the value, including calculations and supporting data. Supporting data may include a copy of the information provided by the supplier or manufacturer of the example coating or material, or a summary of the results of testing conducted according to s. NR 465.36 (2) (a), (b) or (c). You do not need to submit copies of any test reports.

a. Mass fraction of organic HAP for one coating, for one thinner or other additive, and for one cleaning material.

b. Mass fraction of coating solids for one coating.

c. Density for one coating, one thinner or other additive, and one cleaning material, except that if you use the compliant material option in s. NR 465.33 (2) (a) only the example coating density is required.

d. The amount of waste materials and the mass of organic HAP contained in the waste materials for which you are claiming an allowance in Equation 1 of s. NR 465.37 (2).

8. The calculation of kg (lb) of organic HAP emitted per kg (lb) of coating solids used for the compliance options you used, as specified in subd. 8. a. to c.

a. For the compliant material option in s. NR 465.33 (2) (a), provide an example calculation of the organic HAP content for one coating, using Equation 1 of s. NR 465.36 (2).

b. For the emission rate without add−on controls option in s. NR 465.33 (2) (b), provide the calculation of the total mass of organic HAP emissions for each month; the calculation of the total mass of coating solids used each month; and the calculation of the 12−month organic HAP emission rate using Equations 1 and 1A to 1C, 2 and 3, respectively, of s. NR 465.37 (2).

c. For the emission rate with add−on controls option in s. NR 465.33 (2) (c), provide the calculation of the total mass of organic HAP emissions for the coatings, thinners and other additives, and cleaning materials used each month, using Equations 1 and 1A to 1C of s. NR 465.37 (2); the calculation of the total mass of coating solids used each month using Equation 2 of s. NR 465.37 (2); the mass of organic HAP emission reduction each month by emission capture systems and add−on control devices using Equations 1 and 1A to 1D of s. NR 465.38 (2) and Equations 2, 3, and 3A to 3C of s. NR 465.38 (2), as applicable; the calculation of the total mass of organic HAP emissions each month using Equation 4 of s. NR 465.38 (2); and the calculation of the 12−month organic HAP emission rate using Equation 5 of s. NR 465.38 (2).

9. For the emission rate with add−on controls option in s. NR 465.33 (2) (c), you shall include the information specified in subd. 9. a. to d., except that the requirements in subd. 9. a. to c. do not apply to solvent recovery systems for which you conduct liquid−liquid material balances according to s. NR 465.38 (2) (j).

a. For each emission capture system, a summary of the data and copies of the calculations supporting the determination that

the emission capture system is a permanent total enclosure or a measurement of the emission capture system efficiency. Include a description of the protocol followed for measuring capture efficiency, summaries of any capture efficiency tests conducted, and any calculations supporting the capture efficiency determination. If you use the data quality objective (DQO) or lower confidence limit (LCL) approach, you shall also include the statistical calculations to show you meet the DQO or LCL criteria in 40 CFR part 63, Subpart KK, Appendix A, incorporated by reference in s. NR 484.04 (24). You do not need to submit complete test reports.

b. A summary of the results of each add−on control device performance test. You do not need to submit complete test reports.

c. A list of each emission capture system's and add−on control device's operating limits and a summary of the data used to calculate those limits.

d. A statement of whether or not you developed and implemented the work practice plan required by s. NR 465.33 (4).

10. If you are complying with a single emission limit representing the predominant activity under s. NR 465.33 (1) (c) 1., include the calculations and supporting information used to demonstrate that this emission limit represents the predominant activity as specified in s. NR 465.33 (1) (c) 1.

11. If you are complying with a facility−specific emission limit under s. NR 465.33 (1) (c) 2., include the calculation of the facility−specific emission limit and any supporting information as specified in s. NR 465.33 (1) (c) 2.

(2) WHAT REPORTS MUST I SUBMIT? (a) *Semiannual compliance reports.* You shall submit semiannual compliance reports for each affected source according to the requirements of subds. 1. to 7. The semiannual compliance reporting requirements may be satisfied by reports required under other parts of the Clean Air Act, as specified in subd. 2.

1. 'Dates.' Unless the department has approved or agreed to a different schedule for submission of reports under s. NR 460.09 (1), you shall prepare and submit each semiannual compliance report according to the dates specified in subd. 1. a. to d. The information reported for each of the months in the reporting period shall be based on the last 12 months of data prior to the date of each monthly calculation.

a. The first semiannual compliance report shall cover the first semiannual reporting period which begins the day after the end of the initial compliance period described in s. NR 465.36 (1), 465.37 (1) or 465.38 (1) that applies to your affected source and ends on June 30 or December 31, whichever date is the first date following the end of the initial compliance period.

b. Each subsequent semiannual compliance report shall cover the subsequent semiannual reporting period from January 1 to June 30 or the semiannual reporting period from July 1 to December 31.

c. Each semiannual compliance report shall be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

d. For each affected source that is subject to permitting regulations pursuant to ch. NR 407, and if the department has established dates for submitting semiannual reports pursuant to s. NR 407.09 (1) (c) 3. a., you may submit the first and subsequent compliance reports according to those dates instead of according to the date specified in subd. 1. c.

2. 'Inclusion with title V report.' Each affected source that has obtained a title V operating permit pursuant to ch. NR 407 shall report all deviations in the semiannual monitoring report required by s. NR 407.09 (1) (c) 3. a. If an affected source submits a semiannual compliance report pursuant to this subsection along with, or as part of, the semiannual monitoring report required by s. NR 407.09 (1) (c) 3. a., and the semiannual compliance report includes all required information concerning deviations from any emission limit specified in s. NR 465.33 (1), its submission will be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a semiannual compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the department.

3. 'General requirements.' The semiannual compliance report shall contain the information specified in subd. 3. a. to g., and the information specified in subds. 4. to 7. and par. (c) 1. that is applicable to your affected source.

a. Company name and address.

b. Statement by a responsible official with that official's name, title and signature, certifying the truth, accuracy and completeness of the content of the report.

c. Date of report and beginning and ending dates of the reporting period. The reporting period is the 6−month period ending on June 30 or December 31. The information reported for each of the 6 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

d. Identification of the compliance option or options specified in s. NR 465.33 (2) that you used on each coating operation during the reporting period. If you switched between compliance options during the reporting period, you shall report the beginning and ending dates for each option you used.

e. If you used the emission rate without add−on controls option or the emission rate with add−on controls option in s. NR 465.33 (2) (b) or (c), the calculation results for each rolling 12−month organic HAP emission rate during the 6−month reporting period.

f. If you used the predominant activity alternative in s. NR 465.33 (1) (c) 1., include the annual determination of predominant activity if it was not included in the previous semi−annual compliance report.

g. If you used the facility−specific emission limit alternative in s. NR 465.33 (1) (c) 2., include the calculation of the facility−specific emission limit for each 12−month compliance period during the 6−month reporting period.

4. 'No deviations.' If there were no deviations from the emission limits in s. NR 465.33 (1), (3) and (4) that apply to you, the semiannual compliance report shall include a statement that there were no deviations from the emission limits during the reporting period. If you used the emission rate with add−on controls option in s. NR 465.33 (2) (c) and there were no periods during which the continuous parameter monitoring systems (CPMS) were out−of−control as specified in s. NR 460.07 (3) (g), the semiannual compliance report shall include a statement that there were no periods during which the CPMS were out−of−control during the reporting period.

5. 'Deviations: compliant material option.' If you used the compliant material option in s. NR 465.33 (2) (a), and there was a deviation from the applicable organic HAP content requirements in s. NR 465.33 (1), the semiannual compliance report shall contain the information in subd. 5. a. to d.

a. Identification of each coating used that deviated from the applicable emission limit in s. NR 465.33 (1), and each thinner and other additive, and cleaning material used that contained organic HAP, and the dates and time periods each was used.

b. The calculation of the organic HAP content, using Equation 1 of s. NR 465.36 (2), for each coating identified in subd. 5. a. You do not need to submit background data supporting this calculation, such as information provided by coating suppliers or manufacturers, or test reports.

c. The determination of mass fraction of organic HAP for each thinner and other additive, and cleaning material identified in subd. 5. a. You do not need to submit background data supporting this calculation, such as information provided by material suppliers or manufacturers, or test reports.

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d. A statement of the cause of each deviation.

6. 'Deviations: emission rate without add−on controls option.' If you used the emission rate without add−on controls option in s. NR 465.33 (2) (b) and there was a deviation from the applicable emission limit in s. NR 465.33 (1), the semiannual compliance report shall contain the information in subd. 6. a. to c.

a. The beginning and ending dates of each compliance period during which the 12−month organic HAP emission rate exceeded the applicable emission limit in s. NR 465.33 (1).

b. The calculations used to determine the 12−month organic HAP emission rate for the compliance period in which the deviation occurred. You shall submit the calculations for Equations 1, 1A to 1C, 2 and 3 of s. NR 465.37 (2); and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to s. NR 465.37 (2) (e) 2. You do not need to submit background data supporting these calculations, such as information provided by materials suppliers or manufacturers, or test reports.

c. A statement of the cause of each deviation.

7. 'Deviations: emission rate with add−on controls option.' If you used the emission rate with add−on controls option in s. NR 465.33 (2) (c) and there was a deviation from an emission limit in s. NR 465.33 (1), including any periods when emissions bypassed the add−on control device and were diverted to the atmosphere, the semiannual compliance report shall contain the information in subd. 7. a. to n. This includes periods of startup, shutdown and malfunction during which deviations occurred.

a. The beginning and ending dates of each compliance period during which the 12−month organic HAP emission rate exceeded the applicable emission limit in s. NR 465.33 (1).

b. The calculations used to determine the 12−month organic HAP emission rate for each compliance period in which a deviation occurred. You shall provide the calculation of the total mass of organic HAP emissions for the coatings, thinners and other additives, and cleaning materials used each month using Equations 1 and 1A to 1C of s. NR 465.37 (2); and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to s. NR 465.37 (2) (e) 2.; the calculation of the total mass of coating solids used each month using Equation 2 of s. NR 465.37 (2); the calculation of the mass of organic HAP emission reduction each month by emission capture systems and add−on control devices using Equations 1 and 1A to 1D of s. NR 465.38 (2), and Equations 2, 3 and 3A to 3C of s. NR 465.38 (2), as applicable; the calculation of the total mass of organic HAP emissions each month using Equation 4 of s. NR 465.38 (2); and the calculation of the 12−month organic HAP emission rate using Equation 5 of s. NR 465.38 (2). You do not need to submit the background data supporting these calculations, such as information provided by materials suppliers or manufacturers, or test reports.

c. The date and time that each malfunction started and stopped.

d. A brief description of the CPMS.

e. The date of the latest CPMS certification or audit.

f. The date and time that each CPMS was inoperative, except for zero (low−level) and high−level checks.

g. The date, time and duration that each CPMS was out−of−control, including the information in s. NR 460.07 (3) (h).

h. The date and time period of each deviation from an operating limit in Table 1 of this subchapter; date and time period of any bypass of the add−on control device; and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

i. A summary of the total duration of each deviation from an operating limit in Table 1 of this subchapter and each bypass of the add−on control device during the semiannual reporting period, and the total duration as a percent of the total source operating time during that semiannual reporting period.

j. A breakdown of the total duration of the deviations from the operating limits in Table 1 of this subchapter and bypasses of the add−on control device during the semiannual reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes and other unknown causes.

k. A summary of the total duration of CPMS downtime during the semiannual reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that semiannual reporting period.

L. A description of any changes in the CPMS, coating operation, emission capture system or add−on control device since the last semiannual reporting period.

m. For each deviation from the work practice standards, a description of the deviation, the date and time period of the deviation, and the actions you took to correct the deviation.

n. A statement of the cause of each deviation.

(b) *Performance test reports.* If you use the emission rate with add−on controls option in s. NR 465.33 (2) (c), you shall submit reports of performance test results for emission capture systems and add−on control devices no later than 60 days after completing the tests as specified in s. NR 460.09 (4) (b).

(c) *Startup, shutdown, malfunction reports.* If you used the emission rate with add−on controls option in s. NR 465.33 (2) (c) and you had a startup, shutdown or malfunction during the semiannual reporting period, you shall submit the reports specified in subds. 1. and 2.

1. If your actions were consistent with your startup, shutdown and malfunction plan, you shall include the information specified in s. NR 460.09 (4) in the semiannual compliance report required by par. (a).

2. If your actions were not consistent with your startup, shutdown and malfunction plan, you shall submit an immediate startup, shutdown and malfunction report as described in subd. 2. a. and b.

a. You shall describe the actions taken during the event in a report delivered by facsimile, telephone or other means to the department within 2 working days after starting actions that are inconsistent with the plan.

b. You shall submit a letter to the department within 7 working days after the end of the event, unless you have made alternative arrangements with the department as specified in s. NR 460.09 (4) (e) 2. The letter shall contain the information specified in s. NR 460.09 (4) (e) 2.

(3) WHAT RECORDS MUST I KEEP? You shall collect and keep records of the data and information specified in this subsection. Failure to collect and keep these records is a deviation from the applicable standard.

(a) A copy of each notification and report that you submitted to comply with this subchapter, and the documentation supporting each notification and report. If you are using the predominant activity alternative under s. NR 465.33 (1) (c) 1., you shall keep records of the data and calculations used to determine the predominant activity. If you are using the facility−specific emission limit alternative under s. NR 465.33 (1) (c) 2., you shall keep records of the data used to calculate the facility−specific emission limit for the initial compliance demonstration. You shall also keep records of any data used in each annual predominant activity determination and in the calculation of the facility−specific emission limit for each 12−month compliance period included in the semi−annual compliance reports.

(b) A current copy of information provided by materials suppliers or manufacturers, such as manufacturer's formulation data, or test data used to determine the mass fraction of organic HAP and density for each coating, thinner and other additive, and clean-

ing material, and the mass fraction of coating solids for each coating. If you conducted testing to determine mass fraction of organic HAP, density or mass fraction of coating solids, you shall keep a copy of the complete test report. If you used information provided to you by the manufacturer or supplier of the material that was based on testing, you shall keep the summary sheet of results provided to you by the manufacturer or supplier. You are not required to obtain the test report or other supporting documentation from the manufacturer or supplier.

(c) For each compliance period, the records specified in subds. 1. to 4:

1. A record of the coating operations on which you used each compliance option in s. NR 465.33 (2) and the time periods, beginning and ending dates and times, for each option you used.

2. For the compliant material option in s. NR 465.33 (2) (a), a record of the calculation of the organic HAP content for each coating, using Equation 1 of s. NR 465.36 (2).

3. For the emission rate without add−on controls option in s. NR 465.33 (2) (b), a record of the calculation of the total mass of organic HAP emissions for the coatings, thinners and other additives, and cleaning materials used each month using Equations 1 and 1A to 1C of s. NR 465.37 (2) and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to s. NR 465.37 (2) (e) 2.; the calculation of the total mass of coating solids used each month using Equation 2 of s. NR 465.37 (2); and the calculation of each 12−month organic HAP emission rate using Equation 3 of s. NR 465.37 (2).

4. For the emission rate with add−on controls option in s. NR 465.33 (2) (c), records of the calculations specified in subd. 4. a. to e.

a. The calculation of the total mass of organic HAP emissions for the coatings, thinners and other additives, and cleaning materials used each month using Equations 1 and 1A to 1C of s. NR 465.37 (2); and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to s. NR 465.37 (2) (e) 2.

b. The calculation of the total mass of coating solids used each month using Equation 2 of s. NR 465.37 (2).

c. The calculation of the mass of organic HAP emission reduction by emission capture systems and add−on control devices using Equations 1 and 1A to 1D of s. NR 465.38 (2) and Equations 2, 3 and 3A to 3C of s. NR 465.38 (2), as applicable.

d. The calculation of each month's organic HAP emissions using Equation 4 of s. NR 465.38 (2).

e. The calculation of each 12−month organic HAP emission rate using Equation 5 of s. NR 465.38 (2).

(d) A record of the name and mass of each coating, thinner and other additive, and cleaning material used during each compliance period. If you are using the compliant material option in s. NR 465.33 (2) (a) for all coatings at the source, you may maintain purchase records for each material used rather than a record of the mass used.

(e) A record of the mass fraction of organic HAP for each coating, thinner and other additive, and cleaning material used during each compliance period.

(f) A record of the mass fraction of coating solids for each coating used during each compliance period.

(g) If you use an allowance in Equation 1 of s. NR 465.37 (2) for organic HAP contained in waste materials sent to or designated for shipment to a treatment, storage and disposal facility (TSDF) according to s. NR 465.37 (2) (e) 2., you shall keep records of the information specified in subds. 1. to 3.

1. The name and address of each TSDF to which you sent waste materials for which you use an allowance in Equation 1 of s. NR 465.37 (2), a statement of which subparts under 40 CFR parts 262, 264, 265 and 266 apply to the facility; and the date of each shipment.

2. Identification of the coating operations producing waste materials included in each shipment and the month or months in which you used the allowance for these materials in Equation 1 of s. NR 465.37 (2).

3. The methodology used in accordance with s. NR 465.37 (2) (e) 2. to determine the total amount of waste materials sent to or the amount collected, stored and designated for transport to a TSDF each month; and the methodology to determine the mass of organic HAP contained in these waste materials. This shall include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment.

(h) You shall keep records of the date, time and duration of each deviation.

(i) If you use the emission rate with add−on controls option in s. NR 465.33 (2) (c), you shall keep the records specified in subds. 1. to 8.

1. For each deviation, a record of whether the deviation occurred during a period of startup, shutdown or malfunction.

2. The records in s. NR 460.05 (4) (c) 3. to 5. related to startup, shutdown and malfunction.

3. The records required to show continuous compliance with each operating limit specified in Table 1 of this subchapter that applies to you.

4. For each capture system that is a PTE, the data and documentation you used to support a determination that the capture system meets the criteria in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for a PTE and has a capture efficiency of 100%, as specified in s. NR 465.38 (6) (a).

5. For each capture system that is not a PTE, the data and documentation you used to determine capture efficiency according to the requirements specified in s. NR 465.38 (5) and (6) (b) to (e), including the records specified in subd. 5. a. to c. that apply to you.

a. For a liquid−to−uncaptured gas protocol using a temporary total enclosure or building enclosure, records of the mass of total volatile hydrocarbon (TVH) as measured by Method 204A or 204F in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for each material used in the coating operation, and the total TVH for all materials used during each capture efficiency test run, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run, as measured by Method 204D or 204E in 40 CFR part 51, Appendix M, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 in 40 CFR part 51, Appendix M for either a temporary total enclosure or a building enclosure.

b. For a gas−to−gas protocol using a temporary total enclosure or a building enclosure, records of the mass of TVH emissions captured by the emission capture system as measured by Method 204B or 204C in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), at the inlet to the add−on control device, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run, as measured by Method 204D or 204E in 40 CFR part 51, Appendix M, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 in 40 CFR part 51, Appendix M for either a temporary total enclosure or a building enclosure.

c. For an alternative protocol, records needed to document a capture efficiency determination using an alternative method or protocol as specified in s. NR 465.38 (6) (e), if applicable.

6. The records specified in subd. 6. a. and b. for each add−on control device organic HAP destruction or removal efficiency determination as specified in s. NR 465.38 (7).

a. Records of each add−on control device performance test conducted according to s. NR 465.38 (5) and (7).

b. Records of the coating operation conditions during the add−on control device performance test showing that the performance test was conducted under representative operating conditions.

7. Records of the data and calculations you used to establish the emission capture and add−on control device operating limits as specified in s. NR 465.38 (8) and to document compliance with the operating limits as specified in Table 1 of this subchapter.

8. A record of the work practice plan required by s. NR 465.33 (4) and documentation that you are implementing the plan on a continuous basis.

(4) IN WHAT FORM AND FOR HOW LONG MUST I KEEP MY RECORDS? (a) Your records shall be in a form suitable and readily available for expeditious review, according to s. NR 460.09 (2) (a). Where appropriate, the records may be maintained as electronic spreadsheets or as a database.

(b) As specified in s. NR 460.09 (2) (a), you shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record.

(c) You shall keep each record on−site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report or record according to s. NR 460.09 (2) (a). You may keep the records off−site for the remaining 3 years.

History: CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.

NR 465.36 Compliance requirements for the compliant material option. (1) BY WHAT DATES MUST I CONDUCT THE INITIAL COMPLIANCE DEMONSTRATION? You shall complete the initial compliance demonstration for the initial compliance period according to the requirements in sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.31 (4) and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through that month plus the next 12 months. The initial compliance demonstration includes the calculations according to sub. (2) and supporting documentation showing that during the initial compliance period, you used no coating with an organic HAP content that exceeded the applicable emission limit in s. NR 465.33 (1), and that you used no thinners or other additives, or cleaning materials that contained organic HAP as determined according to sub. (2) (a).

(2) HOW DO I DEMONSTRATE INITIAL COMPLIANCE WITH THE EMISSION LIMITS? You may use the compliant material option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You shall use either the emission rate without add−on controls option in s. NR 465.33 (2) (b) or the emission rate with add−on controls option in s. NR 465.33 (2) (c) for any coating operation in the affected source for which you do not use the compliant material option. To demonstrate initial compliance using the compliant material option, the coating operation or group of coating operations shall use no coating with an organic HAP content that exceeds the applicable emission limits in s. NR 465.33 (1) and shall use no thinner or other additive, or cleaning material that contains organic HAP as determined according to pars. (a) to (d). Any coating operation for which you use the compliant material option is not required to meet the operating limits or work practice standards required in s. NR 465.33 (3) and (4). You shall conduct a separate initial compliance demonstration for each general use coating, thermoplastic olefin coating, automotive lamp coating, and assembled on−road vehicle coating affected source unless you are demonstrating compliance with a predominant activity or facility−specific emission limit as provided in s. NR 465.33 (1) (c). If you are demonstrating compliance with a predominant activity or facility−specific emission limit, you shall demonstrate that all coating operations included in the predominant activity determination or calculation of the facility−specific emission limit comply with that limit. You shall meet all the requirements of this subsection. You shall use the procedures in pars. (a) to (d) on each coating, thinner and other additive, and cleaning material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. You do not need to re−determine the organic HAP content of coatings, thinners and other additives, and cleaning materials that are reclaimed on−site, or reclaimed off−site if you have documentation showing that you received back the exact same materials that were sent off−site, and reused in the coating operation for which you use the compliant material option, provided these materials in their condition as received were demonstrated to comply with the compliant material option.

(a) *Determine the mass fraction of organic HAP for each material used*. You shall determine the mass fraction of organic HAP for each coating, thinner and other additive, and cleaning material used during the compliance period by using one of the following 5 options:

1. 'Method 311.' You may use Method 311 in 40 CFR part 63, Appendix A, incorporated by reference in s. NR 484.04 (25), for determining the mass fraction of organic HAP. You shall use the procedures specified in subd. 1. a. and b. when performing a Method 311 test.

a. Count each organic HAP that is measured to be present at 0.1% by mass or more for Occupational Safety and Health Administration (OSHA)−defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0% by mass or more for other compounds. Express the mass fraction of each organic HAP you count as a value truncated to 4 places after the decimal point.

Note: For example, if toluene, not an OSHA carcinogen, is measured to be 0.5% of the material by mass, you do not have to count it.

b. Calculate the total mass fraction of organic HAP in the test material by adding up the individual organic HAP mass fractions and truncating the result to 3 places after the decimal point.

2. 'Method 24.' For coatings, you may use Method 24 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may use the alternative method contained in 40 CFR part 63, Subpart PPPP Appendix A, incorporated by reference in s. NR 484.04 (24r), rather than Method 24. You may use the volatile fraction that is emitted, as measured by the alternative method in 40 CFR part 63, Subpart PPPP, Appendix A as a substitute for the mass fraction of organic HAP.

3. 'Alternative method.' You may use an alternative test method for determining the mass fraction of organic HAP once the administrator has approved it. You shall follow the procedure in s. NR 460.06 (5) to submit an alternative test method for approval.

4. 'Information from the supplier or manufacturer of the material.' You may rely on information other than that generated by the test methods specified in subds. 1. to 3., such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1% by mass or more for OSHA−defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0% by mass or more for other compounds. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may rely on manufacturer's data that expressly states

the organic HAP or volatile matter mass fraction content. If there is a disagreement between the manufacturer's data and results of a test conducted according to subds. 1. to 3., then the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct.

Note: For example, concerning which HAPs to include, if toluene (not an OSHA carcinogen) is 0.5% of the material by mass, you do not have to count it.

5. 'Solvent blends.' Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain organic HAP which shall be counted toward the total organic HAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 2 or 3 of this subchapter. If you use the tables, you shall use the values in Table 2 for all solvent blends that match Table 2 entries according to the instructions for Table 2, and you may use Table 3 only if the solvent blends in the materials you use do not match any of the solvent blends in Table 2 and you know only whether the blend is aliphatic or aromatic. However, if the results of a test using Method 311 in 40 CFR part 63, Appendix A, incorporated by reference in s. NR 484.04 (25), indicates higher values than those listed on Table 2 or 3, the Method 311 results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct.

(b) *Determine the mass fraction of coating solids for each coating*. You shall determine the mass fraction of coating solids, in units of kg (lb) of coating solids per kg (lb) of coating, for each coating used during the compliance period by a test, by information provided by the supplier or the manufacturer of the material, or by calculation, as specified in subds. 1. to 3.

1. 'Method 24.' Use Method 24 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), for determining the mass fraction of coating solids. For reactive adhesives in which some of the liquid fraction reacts to form solids, you may use the alternative method contained in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r), rather than Method 24, to determine the mass fraction of coating solids.

2. 'Alternative method.' You may use an alternative test method for determining the solids content of each coating once the administrator has approved it. You shall follow the procedure in s. NR 460.06 (5) to submit an alternative test method for approval.

3. 'Information from the supplier or manufacturer of the material.' You may obtain the mass fraction of coating solids for each coating from the supplier or manufacturer. If there is disagreement between the supplier's or manufacturer's information and the test method results, then the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct.

(c) *Calculate the organic HAP content of each coating.* Calculate the organic HAP content of each coating used during the compliance period using Equation 1:

$$H_c = \frac{W_c}{S_c}$$

(Equation 1)

where:

H_c is the organic HAP content of the coating, kg (lb) of organic HAP emitted per kg (lb) of coating solids used

W_c is the mass fraction of organic HAP in the coating, kg (lb) of organic HAP per kg (lb) of coating, determined according to par. (a)

S_c is the mass fraction of coating solids, kg (lb) of coating solids per kg (lb) of coating, determined according to par. (b)

(d) *Compliance demonstration.* The calculated organic HAP content for each coating used during the initial compliance period shall be less than or equal to the applicable emission limit in s. NR 465.33 (1); and each thinner and other additive, and cleaning material used during the initial compliance period shall contain no organic HAP, determined according to par. (a). You shall keep all records required by s. NR 465.35 (3) and (4). As part of the notification of compliance status required in s. NR 465.35 (1), you shall identify any coating operation for which you used the compliant material option and submit a statement that the coating operation was in compliance with the emission limits specified in s. NR 465.33 (1) during the initial compliance period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in s. NR 465.33 (1), and you used no thinners or other additives, or cleaning materials that contained organic HAP, determined according to the procedures in par. (a).

(3) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE EMISSION LIMITS? (a) For each compliance period, to demonstrate continuous compliance, you shall use no coating for which the organic HAP content, determined using Equation 1 of sub. (2), exceeds the applicable emission limit in s. NR 465.33 (1), and use no thinner or other additive, or cleaning material that contains organic HAP, determined according to sub. (2) (a). A compliance period consists of 12 months. Each month, after the end of the initial compliance period described in sub. (1), is the end of a compliance period consisting of that month and the preceding 11 months. If you are complying with a facility−specific emission limit under s. NR 465.33 (1) (c) 2., you shall also perform the calculation using Equation 1 in s. NR 465.33 (1) (c) 2. on a monthly basis using the data from the previous 12 months of operation.

(b) If you choose to comply with the emission limits in s. NR 465.33 (1) by using the compliant material option, the use of any coating, thinner or other additive, or cleaning material that does not meet the criteria specified in par. (a) is a deviation from the emission limits in s. NR 465.33 (1) that shall be reported as specified in s. NR 465.35 (1) (c) 6. and (2) (a) 5.

(c) As part of each semiannual compliance report required by s. NR 465.35 (2), you shall identify the coating operations for which you used the compliant material option. If there were no deviations from the applicable emission limit in s. NR 465.33 (1), submit a statement that the coating operations were in compliance with the emission limits during the reporting period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in s. NR 465.33 (1), and you used no thinner or other additive, or cleaning material that contained organic HAP, determined according to sub. (2) (a).

(d) You shall maintain records as specified in s. NR 465.35 (3) and (4).

History: **CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.**

NR 465.37 Compliance requirements for the emission rate without add−on controls option. (1) BY WHAT DATE MUST I CONDUCT THE INITIAL COMPLIANCE DEMONSTRATION? You shall complete the initial compliance demonstration for the initial compliance period according to the requirements of sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.31 (4) and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You shall determine the mass of organic HAP emissions and mass of coating solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the calculations according to sub. (2) and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in s. NR 465.33 (1).

The Wisconsin Administrative Code on this web site is updated on the 1st day of each month, current as of that date. See also Are the Codes on this Website Official?

(2) HOW DO I DEMONSTRATE INITIAL COMPLIANCE WITH THE EMISSION LIMITS? You may use the emission rate without add−on controls option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You shall use either the compliant material option in s. NR 465.33 (2) (a) or the emission rate with add−on controls option in s. NR 465.33 (2) (c) for any coating operation in the affected source for which you do not use the emission rate without add−on controls option. To demonstrate initial compliance using the emission rate without add−on controls option, the coating operation or group of coating operations shall meet the applicable emission limit in s. NR 465.33 (1), but is not required to meet the operating limits or work practice standards in s. NR 465.33 (3) and (4). You shall conduct a separate initial compliance demonstration for each general use, TPO, automotive lamp and assembled on−road vehicle coating operation, unless you are demonstrating compliance with a predominant activity or facility−specific emission limit as provided in s. NR 465.33 (1) (c). If you are demonstrating compliance with a predominant activity or facility−specific emission limit, you shall demonstrate that all coating operations included in the predominant activity determination or calculation of the facility−specific emission limit comply with that limit. You shall meet all the requirements of this subsection. When calculating the organic HAP emission rate according to this subsection, do not include any coatings, thinners or other additives, or cleaning materials used on coating operations for which you use the compliant material option in s. NR 465.33 (2) (a) or the emission rate with add−on controls option in s. NR 465.33 (2) (c). You do not need to redetermine the mass of organic HAP in coatings, thinners or other additives, or cleaning materials that have been reclaimed on−site, or reclaimed off−site if you have documentation showing that you received back the exact same materials that were sent off−site, and reused in the coating operation or operations for which you use the emission rate without add−on controls option. If you use coatings, thinners or other additives, or cleaning materials that have been reclaimed on−site, the amount of each used in a month may be reduced by the amount of each that is reclaimed. That is, the amount used may be calculated as the amount consumed to account for materials that are reclaimed.

(a) *Determine the mass fraction of organic HAP for each material*. Determine the mass fraction of organic HAP for each coating, thinner and other additive, and cleaning material used during each month according to the requirements in s. NR 465.36 (2) (a).

(b) *Determine the mass fraction of coating solids*. Determine the mass fraction of coating solids, kg (lb) of coating solids per kg (lb) of coating, for each coating used during each month according to the requirements in s. NR 465.36 (2) (b).

(c) *Determine the density of each material*. Determine the density of each liquid coating, thinner, other additive and cleaning material used during each month from test results using ASTM D1475−98(2003), "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products", incorporated by reference in s. NR 484.10 (22), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM D1475−98 (2003) and other information sources, the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine material density. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, 1C and 2 of this subsection.

(d) *Determine the volume of each material used*. Determine the volume, in liters or gallons, of each coating, thinner and other additive, and cleaning material used during each month by measurement or usage records. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine the volume of each material used. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, 1C and 2 of this subsection.

(e) *Calculate the mass of organic HAP emissions*. 1. The mass of organic HAP emissions is the combined mass of organic HAP contained in all coatings, thinners and other additives, and cleaning materials used during each month minus the organic HAP in certain waste materials. Calculate the mass of organic HAP emissions using the following equations and the procedures in subd. 2. if applicable:

$$H_e = A + B + C - R_w$$

(Equation 1)

where:

H_e is the total mass of organic HAP emissions during the month, kg (lb)

A is the total mass of organic HAP in the coatings used during the month, kg (lb), as calculated in Equation 1A of this subsection

B is the total mass of organic HAP in the thinners and other additives used during the month, kg (lb), as calculated in Equation 1B of this subsection

C is the total mass of organic HAP in the cleaning materials used during the month, kg (lb), as calculated in Equation 1C of this subsection

R_w is the total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, kg (lb), determined according to subd. 2. You may assign a value of zero to R_w if you do not wish to use this allowance.

$$A = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i})$$

(Equation 1A)

where:

A is the total mass of organic HAP in the coatings used during the month, kg (lb)

$Vol_{c,i}$ is the total volume of coating, i, used during the month, liters (gallons)

$D_{c,i}$ is the density of coating, i, kg (lb) of coating per liter (gallon) of coating

$W_{c,i}$ is the mass fraction of organic HAP in coating, i, kg (lb) of organic HAP per kg (lb) of coating. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

m is the number of different coatings used during the month

$$B = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j})$$

(Equation 1B)

where:

B is the total mass of organic HAP in the thinners and other additives used during the month, kg (lb)

$Vol_{t,j}$ is the total volume of thinner or other additive, j, used during the month, liters (gallons)

$D_{t,j}$ is the density of thinner or other additive, j, kg per liter (lb per gallon)

$W_{t,j}$ is the mass fraction of organic HAP in thinner or other additive, j, kg (lb) of organic HAP per kg (lb) of thinner or other additive. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR

part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

n = is the number of different thinners and other additives used during the month

$$C = \sum_{k=1}^{p} (Vol_{s,k})(D_{s,k})(W_{s,k})$$

(Equation 1C)

where:

C is the total mass of organic HAP in the cleaning materials used during the month, kg (lb)

$Vol_{s,k}$ is the total volume of cleaning material, k, used during the month, liters (gallons)

$D_{s,k}$ is the density of cleaning material, k, kg per liter (lb per gallon)

$W_{s,k}$ is the mass fraction of organic HAP in cleaning material, k, kg (lb) of organic HAP per kg (lb) of material

p is the number of different cleaning materials used during the month

2. If you choose to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 1 of this subsection, then you shall determine the mass according to subd. 2. a. to d.

a. You may only include waste materials in the determination that are generated by coating operations in the affected source for which you use Equation 1 of this subsection and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265 or 266. The TSDF may be either off−site or on−site. You may not include organic HAP contained in wastewater.

b. You shall determine either the amount of the waste materials sent to a TSDF during the month or the amount collected and stored during the month and designated for future transport to a TSDF. Do not include in your determination any waste materials sent to a TSDF during a month if you have already included them in the amount collected and stored during that month or a previous month.

c. Determine the total mass of organic HAP contained in the waste materials specified in subd. 2. b.

d. You shall document the methodology you use to determine the amount of waste materials and the total mass of organic HAP they contain, as required in s. NR 465.35 (3) (g). If waste manifests include this information, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them.

(f) *Calculate the total mass of coating solids used*. Determine the total mass of coating solids used, which is the combined mass of coating solids for all the coatings used during each month, using the following equation:

$$M_{st} = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(M_{s,i})$$

(Equation 2)

where:

M_{st} is the total mass of coating solids used during the month, kg (lb)

$Vol_{c,i}$ is the total volume of coating, i, used during the month, liters (gallons)

$D_{c,i}$ is the density of coating, i, kg per liter (lb per gallon) of coating, determined according to par. (2)(c)

$M_{s,i}$ is the mass fraction of coating solids for coating, i, kg (lb) of solids per kg (lb) of coating, determined according to s. NR 465.36 (2) (b)

m is the number of coatings used during the month

(g) *Calculate the organic HAP emission rate*. Calculate the organic HAP emission rate for the compliance period using the following equation:

$$H_{yr} = \frac{\sum_{y=1}^{n} H_e}{\sum_{y=1}^{n} M_{st}}$$

(Equation 3)

where:

H_{yr} is the average organic HAP emission rate for the compliance period, kg (lb) of organic HAP emitted per kg (lb) of coating solids used

H_e is the total mass of organic HAP emissions from all materials used during month y, kg (lb), as calculated by Equation 1 of this subsection

M_{st} is the total mass of coating solids used during month y, kg (lb), as calculated by Equation 2 of this subsection

y is the number of the month in the compliance period

n is the number of full or partial months in the compliance period. For the initial compliance period, n equals 12 if the compliance date falls on the first day of a month; otherwise n equals 13. For all following compliance periods, n equals 12.

(h) *Compliance demonstration*. The organic HAP emission rate for the initial compliance period calculated using Equation 3 of this subsection shall be less than or equal to the applicable emission limit for each subcategory in s. NR 465.33 (1) or the predominant activity or facility−specific emission limit allowed in s. NR 465.33 (1) (c). You shall keep all records as required by s. NR 465.35 (3) and (4). As part of the notification of compliance status required by s. NR 465.35 (1), you shall identify the coating operations for which you used the emission rate without add−on controls option and submit a statement that the coating operations were in compliance with the emission limits specified in s. NR 465.33 (1) during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in s. NR 465.33 (1), determined according to the procedures in this subsection.

(3) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE EMISSION LIMITS? (a) To demonstrate continuous compliance, the organic HAP emission rate for each compliance period, determined according to sub. (2) (a) to (g), shall be less than or equal to the applicable emission limit in s. NR 465.33 (1). A compliance period consists of 12 months. Each month after the end of the initial compliance period described in sub. (1) is the end of a compliance period consisting of that month and the preceding 11 months. You shall perform the calculations in sub. (2) (a) to (g) on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility−specific emission limit under s. NR 465.33 (1) (c) 2., you shall also perform the calculation using Equation 1 in s. NR 465.33 (1) (c) 2. on a monthly basis using the data from the previous 12 months of operation.

(b) If the organic HAP emission rate for any 12−month compliance period exceeded the applicable emission limit in s. NR 465.33 (1), this is a deviation from the emission limit for that compliance period and shall be reported as specified in s. NR 465.35 (1) (c) 6. and (2) (a) 6.

(c) As part of each semiannual compliance report required by s. NR 465.35 (2), you shall identify the coating operations for which you used the emission rate without add−on controls option. If there were no deviations from the emission limits specified in s. NR 465.33 (1), you shall submit a statement that the coating operations were in compliance with the emission limits during the

reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in s. NR 465.33 (1), determined according to sub. (2) (a) to (g).

(d) You shall maintain records as specified in s. NR 465.35 (3) and (4).

History: **CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.**

NR 465.38 Compliance requirements for the emission rate with add−on controls option. (1) BY WHAT DATE MUST I CONDUCT PERFORMANCE TESTS AND OTHER INITIAL COMPLIANCE DEMONSTRATIONS? (a) For a new or reconstructed affected source, you shall meet the requirements of subds. 1. to 4.

1. All emission capture systems, add−on control devices, and CPMS shall be installed and operating no later than the applicable compliance date specified in s. NR 465.31 (4). Except for solvent recovery systems for which you conduct liquid−liquid material balances according to sub. (2) (j), you shall conduct a performance test of each capture system and add−on control device according to subs. (5), (6) and (7) and establish the operating limits required by s. NR 465.33 (3) no later than 180 days after the applicable compliance date specified in s. NR 465.31 (4). For a solvent recovery system for which you conduct liquid−liquid material balances according to sub. (2) (j), you shall initiate the first material balance no later than the applicable compliance date specified in s. NR 465.31 (4).

2. You shall develop and begin implementing the work practice plan required by s. NR 465.33 (4) no later than the compliance date specified in s. NR 465.31 (4).

3. You shall complete the initial compliance demonstration for the initial compliance period according to the requirements of sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.31 (4) and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You shall determine the mass of organic HAP emissions and mass of coatings solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the results of emission capture system and add−on control device performance tests conducted according to subs. (5), (6) and (7); results of liquid−liquid material balances conducted according to sub. (2) (j); calculations according to sub. (2) and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in s. NR 465.33 (1); the operating limits established during the performance tests and the results of the continuous parameter monitoring required by sub. (9); and documentation of whether you developed and implemented the work practice plan required by s. NR 465.33 (4).

4. You do not need to comply with the operating limits for the emission capture system and add−on control device required by s. NR 465.33 (3) until after you have completed the performance tests specified in subd. 1. Instead, you shall maintain a log detailing the operation and maintenance of the emission capture system, add−on control device, and continuous parameter monitors during the period between the compliance date and the performance test. You shall begin complying with the operating limits for your affected source on the date you complete the performance tests specified in subd. 1. The requirements in this subdivision do not apply to solvent recovery systems for which you conduct liquid−liquid material balances according to the requirements in sub. (2) (j).

(b) For an existing affected source, you shall meet the requirements of subds. 1. to 3.

1. All emission capture systems, add−on control devices and CPMS shall be installed and operating no later than the applicable compliance date specified in s. NR 465.31 (4). Except for solvent recovery systems for which you conduct liquid−liquid material balances according to sub. (2) (j), you shall conduct a performance test of each capture system and add−on control device according to the procedures in subs. (5), (6) and (7) and establish the operating limits required by s. NR 465.33 (3) no later than the compliance date specified in s. NR 465.31 (4). For a solvent recovery system for which you conduct liquid−liquid material balances according to sub. (2) (j), you shall initiate the first material balance no later than the compliance date specified in s. NR 465.31 (4).

2. You shall develop and begin implementing the work practice plan required by s. NR 465.33 (4) no later than the compliance date specified in s. NR 465.31 (4).

3. You shall complete the initial compliance demonstration for the initial compliance period according to the requirements of sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.31 (4) and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You shall determine the mass of organic HAP emissions and mass of coatings solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the results of emission capture system and add−on control device performance tests conducted according to subs. (5), (6) and (7); results of liquid−liquid material balances conducted according to sub. (2) (j); calculations according to sub. (2) and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in s. NR 465.33 (1); the operating limits established during the performance tests and the results of the continuous parameter monitoring required by sub. (9); and documentation of whether you developed and implemented the work practice plan required by s. NR 465.33 (4).

(c) You are not required to conduct an initial performance test to determine capture efficiency or destruction efficiency of a capture system or control device if you receive approval to use the results of a performance test that has been previously conducted on that capture system or control device. Any previous tests shall meet the conditions described in subds. 1. to 3.

1. The previous test shall have been conducted using the methods and conditions specified in this subchapter.

2. Either no process or equipment changes shall have been made since the previous test was performed, or the owner or operator shall be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

3. Either the required operating parameters were established in the previous test or sufficient data were collected in the previous test to establish the required operating parameters.

(2) HOW DO I DEMONSTRATE INITIAL COMPLIANCE? (a) *General.* You may use the emission rate with add−on controls option for any coating operation, for any group of coating operations in the affected source, or for all of the coating operations in the affected source. You may include both controlled and uncontrolled coating operations in a group for which you use this option. You shall use either the compliant material option in s. NR 465.33 (2) (a) or the emission rate without add−on controls option in s. NR 465.33 (2) (b) for any coating operation in the affected source for which you do not use the emission rate with add−on controls option. To demonstrate initial compliance, the coating operations for which you use the emission rate with add−on controls option shall meet the applicable emission limits in s. NR 465.33 (1), (3) and (4). You shall conduct a separate initial compliance demonstration for each general use, thermoplastic olefin, automotive lamp and assembled on−road vehicle coating operation, unless you are demonstrating compliance with a predominant activity or facility−specific emission limit as provided in s. NR 465.33 (1) (c). If you are demon-

strating compliance with a predominant activity or facility−specific emission limit, you shall demonstrate that all coating operations included in the predominant activity determination or calculation of the facility−specific emission limit comply with that limit. You shall meet all the requirements of this subsection. When calculating the organic HAP emission rate according to this subsection, do not include any coatings, thinners or other additives, or cleaning materials used on coating operations for which you use the compliant material option or the emission rate without add−on controls option. You do not need to re−determine the mass of organic HAP in coatings, thinners or other additives, or cleaning materials that have been reclaimed onsite, or reclaimed off−site if you have documentation showing that you received back the exact same materials that were sent off−site, and reused in the coatings operations for which you use the emission rate with add−on controls option. If you use coatings, thinners or other additives, or cleaning materials that have been reclaimed on−site, the amount of each used in a month may be reduced by the amount of each that is reclaimed. That is, the amount used may be calculated as the amount consumed to account for materials that are reclaimed.

(b) *Compliance with operating limits*. Except as provided in sub. (1) (a) 4., and except for solvent recovery systems for which you conduct liquid−liquid material balances according to the requirements of par. (j), you shall establish and demonstrate continuous compliance during the initial compliance period with the operating limits required by s. NR 465.33 (3), using the procedures specified in subs. (8) and (9).

(c) *Compliance with work practice requirements*. You shall develop, implement and document your implementation of the work practice plan required by s. NR 465.33 (4) during the initial compliance period, as specified in s. NR 465.35 (3).

(d) *Compliance with emission limits*. You shall follow the procedures in pars. (e) to (n) to demonstrate compliance with the applicable emission limit in s. NR 465.33 (1) for each affected source in each sub−category.

(e) *Determine the mass fraction of organic HAP, density, volume used, and mass fraction of coating solids*. Follow the procedures specified in s. NR 465.37 (2) (a) to (d) to determine the mass fraction of organic HAP, density and volume of each coating, thinner and other additive, and cleaning material used during each month; and the mass fraction of coating solids for each coating used during each month.

(f) *Calculate the total mass of organic HAP emissions before add−on controls*. Using Equation 1 of s. NR 465.37 (2), calculate the total mass of organic HAP emissions before add−on controls from all coatings, thinners and other additives, and cleaning materials used during each month in the coating operation or group of coating operations for which you use the emission rate with add−on controls option.

(g) *Calculate the organic HAP emission reduction for each controlled coating operation*. Determine the mass of organic HAP emissions reduced for each controlled coating operation during each month. The emission reduction determination quantifies the total organic HAP emissions that pass through the emission capture system and are destroyed or removed by the add−on control device. Use the procedures in par. (h) to calculate the mass of organic HAP emission reduction for each controlled coating operation using an emission capture system and add−on control device other than a solvent recovery system for which you conduct liquid−liquid material balances. For each controlled coating operation using a solvent recovery system for which you conduct a liquid−liquid material balance, use the procedures in par. (j) to calculate the organic HAP emission reduction.

(h) *Calculate the organic HAP emission reduction for each controlled coating operation not using liquid−liquid material balance*. Use the equations in this paragraph to calculate the organic HAP emission reduction for each controlled coating operation using an emission capture system and add−on control device other than a solvent recovery system for which you conduct liquid−liquid material balances. You shall assume zero efficiency for the emission capture system and add−on control device for any period of time a deviation specified in sub. (4) (c) or (d) occurs in the controlled coating operation, including a deviation during a period of startup, shutdown or malfunction, unless you have other data indicating the actual efficiency of the emission capture system and add−on control device and the use of these data is approved by the department.

Note: The calculation applies the emission capture system efficiency and add−on control device efficiency to the mass of organic HAP contained in the coatings, thinners and other additives, and cleaning materials that are used in the coating operation served by the emission capture system and add−on control device during each month. Equation 1 treats the materials used during a deviation as if they were used on an uncontrolled coating operation for the time period of the deviation.

$$H_C = (A_C + B_C + C_C - R_W - H_{UNC})\left(\frac{CE}{100} \times \frac{DRE}{100}\right)$$

(Equation 1)

where:

H_C is the mass of organic HAP emission reduction for the controlled coating operation during the month, kg (lb)

A_C is the total mass of organic HAP in the coatings used in the controlled coating operation during the month, kg (lb), as calculated in Equation 1A of this subsection

B_C is the total mass of organic HAP in the thinners and other additives used in the controlled coating operation during the month, kg (lb), as calculated in Equation 1B of this subsection

C_C is the total mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg (lb), as calculated in Equation 1C of this subsection

R_W is the total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the compliance period, kg (lb), determined according to s. NR 465.37 (2) (e) 2. You may assign a value of zero to R_W if you do not wish to use this allowance.

H_{UNC} is the total mass of organic HAP in the coatings, thinners and other additives, and cleaning materials used during all deviations specified in sub. (4) (c) and (d) that occurred during the month in the controlled coating operation, kg (lb), as calculated in Equation 1D of this subsection

CE is the capture efficiency of the emission capture system vented to the add−on control device, percent. Use the test methods and procedures specified in subs. (5) and (6) to measure and record capture efficiency.

DRE is the organic HAP destruction or removal efficiency of the add−on control device, percent. Use the test methods and procedures in subs. (5) and (7) to measure and record the organic HAP destruction or removal efficiency.

$$A_C = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i})$$

(Equation 1A)

where:

A_C is the total mass of organic HAP in the coatings used in the controlled coating operation during the month, kg (lb)

$Vol_{c,i}$ is the total volume of coating, i, used during the month, liters (gallons)

$D_{c,i}$ is the density of coating, i, kg per liter (lb per gallon)

$W_{c,i}$ is the mass fraction of organic HAP in coating, i, kg per kg (lb per lb). For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04(24r).

m is the number of different coatings used

$$B_C = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j})$$

(Equation 1B)

where:

B_C is the total mass of organic HAP in the thinners or other additives used in the controlled coating operation during the month, kg (lb)

$Vol_{t,j}$ is the total volume of thinner or other additive, j, used during the month, liters (gallons)

$D_{t,j}$ is the density of thinner or other additive, j, kg per liter (lb per gallon)

$W_{t,j}$ is the mass fraction of organic HAP in thinner or other additive, j, kg per kg (lb per lb). For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

n is the number of different thinners and other additives used

$$C_C = \sum_{k=1}^{p} (Vol_{s,k})(D_{s,k})(W_{s,k})$$

(Equation 1C)

where:

C_C is the total mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg (lb)

$Vol_{s,k}$ is the total volume of cleaning material, k, used during the month, liters (gallons)

$D_{s,k}$ is the density of cleaning material, k, kg per liter (lb per gallon)

$W_{s,k}$ is the mass fraction of organic HAP in cleaning material, k, kg per kg (lb per lb)

p is the number of different cleaning materials used

$$H_{UNC} = \sum_{h=1}^{q} (Vol_h)(D_h)(W_h)$$

(Equation 1D)

where:

H_{UNC} is the total mass of organic HAP in the coatings, thinners and other additives, and cleaning materials used during all deviations specified in sub. (4)(c) and (d) that occurred during the month in the controlled coating operation, kg (lb)

Vol_h is the total volume of coating, thinner or other additives, or cleaning material, h, used in the controlled coating operation during deviations, liters (gallons)

D_h is the density of coating, thinner or other additives, or cleaning material, h, kg per liter (lb per gallon)

W_h is the mass fraction of organic HAP in coating, thinner or other additives, or cleaning material, h, kg (lb) of organic HAP per kg (lb) of coating. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

q is the number of different coatings, thinners and other additives, and cleaning materials used

(j) *Calculate the organic HAP emission reduction for each controlled coating operation using liquid−liquid material balances*. For each controlled coating operation using a solvent recovery system for which you conduct liquid−liquid material balances, calculate the organic HAP emission reduction by applying the volatile organic matter collection and recovery efficiency to the mass of organic HAP contained in the coatings, thinners and other additives and cleaning materials that are used in the coating operation or operations controlled by the solvent recovery system during each month. Perform a liquid−liquid material balance for each month as specified in subds. 1. to 6. Calculate the mass of organic HAP emission reduction by the solvent recovery system as specified in subd. 7.

1. For each solvent recovery system, install, calibrate, maintain and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system each month. The device shall be initially certified by the manufacturer to be accurate to within 2.0% of the mass of volatile organic matter recovered.

2. For each solvent recovery system, determine the mass of volatile organic matter recovered for the month, based on measurement with the device required in subd. 1.

3. Determine the mass fraction of volatile organic matter for each coating, thinner and other additive and cleaning material used in the coating operation or operations controlled by the solvent recovery system during the month, kg (lb) of volatile organic matter per kg (lb) of coating. You may determine the volatile organic matter mass fraction using Method 24 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), or an EPA approved alternative method, or you may use information provided by the manufacturer or supplier of the coating. In the event of any inconsistency between information provided by the manufacturer or supplier and the results of Method 24 or an approved alternative method, the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct.

4. Determine the density of each coating, thinner or other additive and cleaning material used in the coating operation or operations controlled by the solvent recovery system during the month, kg per liter (lb per gallon), according to s. NR 465.37 (2)(c).

5. Measure the volume of each coating, thinner and other additive and cleaning material used in the coating operation or operations controlled by the solvent recovery system during the month, liters (gallons).

6. Each month, calculate the solvent recovery system's volatile organic matter collection and recovery efficiency using the following equation:

$$R_V = \frac{100M_{VR}}{\sum_{i=1}^{m} Vol_i D_i WV_{c,i} + \sum_{j=1}^{n} Vol_j D_j WV_{t,j} + \sum_{k=1}^{p} Vol_k D_k WV_{s,k}}$$

(Equation 2)

where:

R_V is the volatile organic matter collection and recovery efficiency of the solvent recovery system during the month, percent

M_{VR} is the mass of volatile organic matter recovered by the solvent recovery system during the month, kg (lb)

Vol_i is the volume of coating, i, used in the coating operation controlled by the solvent recovery system during the month, liters (gallons)

D_i is the density of coating, i, kg per liter (lb per gallon)

$WV_{c,i}$ is the mass fraction of volatile organic matter for coating i, kg (lb) of volatile organic matter per kg (lb) of coating. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

Vol_j is the volume of thinner or other additive, j, used in the coating operation controlled by the solvent recovery system during the month, liters (gallons)

D_j is the density of thinner or other additive, j, kg per liter (lb per gallon)

$WV_{t,j}$ is the mass fraction of volatile organic matter for thinner or other additive, j, kg (lb) of volatile organic matter per kg (lb) of thinner or other additive. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

Vol_k is the volume of cleaning material, k, used in the coating operation controlled by the solvent recovery system during the month, liters (gallons)

D_k is the density of cleaning material, k, kg per liter (lb per gallon)

$WV_{s,k}$ is the mass fraction of volatile organic matter for cleaning material, k, kg (lb) of volatile organic matter per kg (lb) of cleaning material

m is the number of different coatings used in the coating operation controlled by the solvent recovery system during the month

n is the number of different thinners and other additives used in the coating operation controlled by the solvent recovery system during the month

p is the number of different cleaning materials used in the coating operation controlled by the solvent recovery system during the month

7. Calculate the mass of organic HAP emission reduction for the coating operation or operations controlled by the solvent recovery system during the month, using the following equations:

$$H_{CSR} = (A_{CSR} + B_{CSR} + C_{CSR})\left(\frac{R_V}{100}\right) \quad \text{(Equation 3)}$$

where:

H_{CSR} is the mass of organic HAP emission reduction for the coating operation controlled by the solvent recovery system using a liquid−liquid material balance during the month, kg (lb)

A_{CSR} is the total mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system, kg (lb), calculated using Equation 3A of this subsection

B_{CSR} is the total mass of organic HAP in the thinners and other additives used in the coating operation controlled by the solvent recovery system, kg (lb), calculated using Equation 3B of this subsection

C_{CSR} is the total mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system, kg (lb), calculated using Equation 3C of this subsection

R_V is the volatile organic matter collection and recovery efficiency of the solvent recovery system, percent, from Equation 2 of subd. 6.

$$A_{CSR} = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i}) \quad \text{(Equation 3A)}$$

where:

A_{CSR} is the total mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system during the month, kg (lb)

$Vol_{c,i}$ is the total volume of coating, i, used during the month in the coating operation controlled by the solvent recovery system, liters (gallons)

$D_{c,i}$ is the density of coating, i, kg per liter (lb per gallon)

$W_{c,i}$ is the mass fraction of organic HAP in coating, i, kg (lb) of organic HAP per kg (lb) of coating. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

m is the number of different coatings used

$$B_{CSR} = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j}) \quad \text{(Equation 3B)}$$

where:

B_{CSR} is the total mass of organic HAP in the thinners and other additives used in the coating operation controlled by the solvent recovery system during the month, kg (lb)

$Vol_{t,j}$ is the total volume of thinner or other additive, j, used during the month in the coating operation controlled by the solvent recovery system, liters (gallons)

$D_{t,j}$ is the density of thinner or other additive, j, kg per liter (lb per gallon)

$W_{t,j}$ is the mass fraction of organic HAP in thinner or other additive, j, kg (lb) of organic HAP per kg (lb) of thinner or other additive. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

n is the number of different thinners and other additives used

$$C_{CSR} = \sum_{k=1}^{p} (Vol_{s,k})(D_{s,k})(W_{s,k}) \quad \text{(Equation 3C)}$$

where:

C_{CSR} is the total mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system during the month, kg (lb)

$Vol_{s,k}$ is the total volume of cleaning material, k, used during the month in the coating operation controlled by the solvent recovery system, liters (gallons)

$D_{s,k}$ is the density of cleaning material, k, kg per liter (lb per gallon)

$W_{s,k}$ is the mass fraction of organic HAP in cleaning material, k, kg (lb) of organic HAP per kg (lb) of cleaning material

p is the number of different cleaning materials used

(k) *Calculate the total mass of coating solids used.* Determine the total mass of coating solids used which is the combined mass of coating solids for all the coatings used during each month in the coating operation or group of coating operations for which you use the emission rate with add−on controls option, using Equation 2 of s. NR 465.37 (2).

(L) *Calculate the mass of organic HAP emissions for each month.* Determine the mass of organic HAP emissions during each month, using the following equation:

$$H_{HAP} = H_e - \sum_{i=1}^{q} (H_{c,i}) - \sum_{j=1}^{r} (H_{CSR,j}) \quad \text{(Equation 4)}$$

where:

H_{HAP} is the total mass of organic HAP emissions for the month, kg (lb)

H_e is the total mass of organic HAP emissions before add−on controls from all the coatings, thinners and other additives, and cleaning materials used during the month, kg (lb), determined according to par. (f)

$H_{C,i}$ is the total mass of organic HAP emission reduction for controlled coating operation, i, not using a liquid−liquid material balance, during the month, kg (lb), from Equation 1 of this subsection

$H_{CSR,j}$ is the total mass of organic HAP emission reduction for coating operation j, controlled by a solvent recovery system using a liquid−liquid material balance, during the month, kg (lb), from Equation 3 of this subsection

q is the number of controlled coating operations not controlled by a solvent recovery system using a liquid−liquid material balance

r is the number of coating operations controlled by a solvent recovery system using a liquid−liquid material balance

(m) *Calculate the organic HAP emission rate for the compliance period.* Determine the organic HAP emission rate for the compliance period using the following equation:

$$H_{annual} = \frac{\sum_{y=1}^{n} H_{HAP,y}}{\sum_{y=1}^{n} M_{st,y}}$$

(Equation 5)

where:

H_{annual} is the organic HAP emission rate for the compliance period, kg (lb) of organic HAP emitted per kg (lb) of coating solids used

$H_{HAP,y}$ is the organic HAP emissions for month, y, kg (lb), determined according to Equation 4 of this subsection

$M_{st,y}$ is the total mass of coating solids used during month, y, kg (lb), from Equation 2 of s. NR 465.37 (2)

y is the number of the month in the compliance period

n is the number of full or partial months in the compliance period. For the initial compliance period, n equals 12 if the compliance date falls on the first day of a month; otherwise n equals 13. For all following compliance periods, n equals 12.

(n) *Compliance demonstration*. The organic HAP emission rate for the initial compliance period, calculated using Equation 5 of this subsection, shall be less than or equal to the applicable emission limit for each sub−category in s. NR 465.33 (1) or the predominant activity or facility−specific emission limit allowed in s. NR 465.33 (1) (c). You shall keep all records as required by s. NR 465.35 (3) and (4). As part of the notification of compliance status required by s. NR 465.35 (1), you shall identify the coating operations for which you used the emission rate with add−on controls option and submit a statement that the coating operations were in compliance with the emission limits in s. NR 465.33 (1) during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in s. NR 465.33 (1), and you achieved the operating limits required by s. NR 465.33 (3) and the work practice standards required by s. NR 465.33 (4).

(4) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE EMISSION LIMITS? (a) To demonstrate continuous compliance with the applicable emission limit in s. NR 465.33 (1), the organic HAP emission rate for each compliance period, determined according to the procedures in sub. (2), shall be equal to or less than the applicable emission limit in s. NR 465.33 (1). A compliance period consists of 12 months. Each month after the end of the initial compliance period described in sub. (1) is the end of a compliance period consisting of that month and the preceding 11 months. You shall perform the calculations in sub. (2) on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility−specific emission limit under s. NR 465.33 (1) (c) 2., you shall also perform the calculation using Equation 1 in s. NR 465.33 (1) (c) 2. on a monthly basis using the data from the previous 12 months of operation.

(b) If the organic HAP emission rate for any 12−month compliance period exceeded the applicable emission limit in s. NR 465.33 (1), this is a deviation from the emission limit for that compliance period that shall be reported as specified in s. NR 465.35 (1) (c) 6. and (2) (a) 7.

(c) You shall demonstrate continuous compliance with each operating limit required by s. NR 465.33 (3) that applies to you, as specified in Table 1 of this subchapter, when the coating line is in operation. If an operating parameter is out of the allowed range specified in Table 1, you shall do both of the following:

1. Report as a deviation from the operating limit as specified in s. NR 465.35 (1) (c) 6. and (2) (a) 7.

2. Assume that the emission capture system and add−on control device were achieving zero efficiency during the time period of the deviation, unless you have other data indicating the actual efficiency of the emission capture system and add−on control device and the use of these data is approved by the department.

(d) You shall meet the requirements for bypass lines in sub. (9) (b) for controlled coating operations for which you do not conduct liquid−liquid material balances. If any bypass line is opened and emissions are diverted to the atmosphere when the coating operation is running, this is a deviation that shall be reported as specified in s. NR 465.35 (1) (c) 6. and (2) (a) 7. For the purposes of completing the compliance calculations specified in sub. (2) (h), you shall treat the materials used during a deviation on a controlled coating operation as if they were used on an uncontrolled coating operation for the time period of the deviation as indicated in Equation 1 of sub. (2).

(e) You shall demonstrate continuous compliance with the work practice standards in s. NR 465.33 (4). If you did not develop a work practice plan, or you did not implement the plan, or you did not keep the records required by s. NR 465.35 (3) (i) 8., this is a deviation from the work practice standards that shall be reported as specified in s. NR 465.35 (1) (c) 6. and (2) (a) 7.

(f) As part of each semiannual compliance report required in s. NR 465.35 (2), you shall identify the coating operations for which you used the emission rate with add−on controls option. If there were no deviations from the emission limits specified in s. NR 465.33 (1), you shall submit a statement that you were in compliance with the emission limits during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in s. NR 465.33 (1), and you achieved the operating limits required by s. NR 465.33 (3) and the work practice standards required by s. NR 465.33 (4) during each compliance period.

(g) During periods of startup, shutdown or malfunction of the emission capture system, add−on control device or coating operation that may affect emission capture or control device efficiency, you shall operate in accordance with the startup, shutdown and malfunction plan required by s. NR 465.34 (1) (c).

(j) You shall maintain records as specified in s. NR 465.35 (3) and (4).

(5) WHAT ARE THE GENERAL REQUIREMENTS FOR PERFORMANCE TESTS? (a) You shall conduct each performance test required by sub. (1) according to the requirements in s. NR 460.06 (4) (a) and under the conditions in this paragraph, unless you obtain a waiver of the performance test according to the provisions in s. NR 460.06 (7).

1. 'Representative coating operation operating conditions.' You shall conduct the performance test under representative operating conditions for the coating operation. Operations during periods of startup, shutdown or malfunction and during periods of non−operation do not constitute representative conditions. You shall record the process information that is necessary to document operating conditions during the test and explain why the conditions represent normal operation.

2. 'Representative emission capture system and add−on control device operating conditions.' You shall conduct the performance test when the emission capture system and add−on control device are operating at a representative flow rate, and the add−on control device is operating at a representative inlet concentration. You shall record information that is necessary to document emission capture system and add−on control device operating conditions during the test and explain why the conditions represent normal operation.

(b) You shall conduct each performance test of an emission capture system according to the requirements in sub. (6). You shall conduct each performance test of an add−on control device according to the requirements in sub. (7).

(6) HOW DO I DETERMINE THE EMISSION CAPTURE SYSTEM EFFICIENCY? You shall use the procedures and test methods in this subsection to determine capture efficiency as part of the performance test required by sub. (1).

(a) *Assuming 100% capture efficiency.* You may assume the capture system efficiency is 100% if both of the conditions in subds. 1. and 2. are met.

1. The capture system meets the criteria in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for a PTE and directs all the exhaust gases from the enclosure to an add−on control device.

2. All coatings, thinners and other additives and cleaning materials used in the coating operation are applied within the capture system; coating solvent flash−off, curing and drying occurs within the capture system; and the removal or evaporation of cleaning materials from the surfaces they are applied to occurs within the capture system.

Note: For example, this criterion is not met if parts enter the open shop environment when being moved between a spray booth and a curing oven.

(b) *Measuring capture efficiency.* If the capture system does not meet both of the conditions in par. (a), then you shall use one of the 3 protocols described in pars. (c), (d) and (e) to measure capture efficiency. The capture efficiency measurements use TVH capture efficiency as a surrogate for organic HAP capture efficiency. For the protocols in pars. (c) and (d), the capture efficiency measurement shall consist of 3 test runs. Each test run shall be at least 3 hours duration or the length of a production run, whichever is longer, up to 8 hours. For the purposes of this test, a production run means the time required for a single part to go from the beginning to the end of the production, which includes surface preparation activities and drying and curing time.

(c) *Liquid−to−uncaptured−gas protocol using a temporary total enclosure or building enclosure.* The liquid−to−uncaptured−gas protocol compares the mass of liquid TVH in materials used in the coating operation to the mass of TVH emissions not captured by the emission capture system. You shall use a temporary total enclosure or a building enclosure and the procedures in subds. 1. to 6. to measure emission capture system efficiency when using the liquid−to−uncaptured−gas protocol.

1. Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and other additives, and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash−off, curing and drying areas. The areas of the coating operation where capture devices collect emissions for routing to an add−on control device, such as the entrance and exit areas of an oven or spray booth, shall also be inside the enclosure. The enclosure shall meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

2. Use Method 204A or 204F in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to determine the mass fraction of TVH liquid input from each coating, thinner and other additive and cleaning material used in the coating operation during each capture efficiency test run. To make the determination, substitute TVH for each occurrence of the term volatile organic compounds (VOC) in the methods.

3. Use Equation 1 in this subsection to calculate the total mass of TVH liquid input from all the coatings, thinners and other additives and cleaning materials used in the coating operation during each capture efficiency test run:

$$TVH_{used} = \sum_{i=1}^{n} (TVH_i)(Vol_i)(D_i) \qquad \text{(Equation 1)}$$

where:

TVH_{used} is the mass of liquid TVH in materials used in the coating operation during the capture efficiency test run, kg (lb)

TVH_i is the mass fraction of TVH in coating, thinner or other additive or cleaning material, i, that is used in the coating operation during the capture efficiency test run, kg (lb) of TVH per kg (lb) of material

Vol_i is the total volume of coating, thinner or other additive or cleaning material, i, used in the coating operation during the capture efficiency test run, liters (gallons)

D_i is the density of coating, thinner or other additive or cleaning material, i, kg (lb) of material per liter (gallon) of material

n is the number of different coatings, thinners and other additives, and cleaning materials used in the coating operation during the capture efficiency test run

4. Use Method 204D or 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to measure the total mass of TVH emissions that are not captured by the emission capture system. They are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

a. Use Method 204D in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), if the enclosure is a temporary total enclosure.

b. Use Method 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure, other than the coating operation for which capture efficiency is being determined, shall be shut down, but all fans and blowers shall be operating normally.

5. For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using the following equation:

$$CE = \frac{(TVH_{used} - TVH_{uncaptured})}{TVH_{used}} x100 \qquad \text{(Equation 2)}$$

where:

CE is the capture efficiency of the emission capture system vented to the add−on control device, percent

TVH_{used} is the total mass of TVH liquid input used in the coating operation during the capture efficiency test run, kg (lb)

$TVH_{uncaptured}$ is the total mass of TVH that is not captured by the emission capture system and that exits from the temporary

total enclosure or building enclosure during the capture efficiency test run, kg (lb)

6. Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the 3 test runs.

(d) *Gas−to−gas protocol using a temporary total enclosure or a building enclosure.* The gas−to−gas protocol compares the mass of TVH emissions captured by the emission capture system to the mass of TVH emissions not captured. You shall use a temporary total enclosure or a building enclosure and the procedures in subds. 1. to 5. to measure emission capture system efficiency when using the gas−to−gas protocol.

1. Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and other additives and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash−off, curing and drying areas. The areas of the coating operation where capture devices collect emissions generated by the coating operation for routing to an add−on control device, such as the entrance and exit areas of an oven or a spray booth, shall also be inside the enclosure. The enclosure shall meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

2. Use Method 204B or 204C in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to measure the total mass of TVH emissions captured by the emission capture system during each capture efficiency test run as measured at the inlet to the add−on control device. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

a. The sampling points for the Method 204B or 204C in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), measurement shall be upstream from the add−on control device and shall represent total emissions routed from the capture system and entering the add−on control device.

b. If multiple emission streams from the capture system enter the add−on control device without a single common duct, then the emissions entering the add−on control device shall be simultaneously measured in each duct and the total emissions entering the add−on control device shall be determined.

3. Use Method 204D or 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to measure the total mass of TVH emissions that are not captured by the emission capture system. They are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

a. Use Method 204D in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), if the enclosure is a temporary total enclosure.

b. Use Method 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure, other than the coating operation for which capture efficiency is being determined, shall be shut down, but all fans and blowers shall be operating normally.

4. For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using the following equation:

$$CE = \frac{TVH_{captured}}{(TVH_{captured} + TVH_{uncaptured})} x100 \qquad \text{(Equation 3)}$$

where:

CE is the capture efficiency of the emission capture system vented to the add−on control device, percent

$TVH_{captured}$ is the total mass of TVH captured by the emission capture systems measured at the inlet to the add−on control device during the emission capture efficiency test run, kg (lb)

$TVH_{uncaptured}$ is the total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg (lb)

5. Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the 3 test runs.

(e) *Alternative capture efficiency protocol*. As an alternative to the procedures specified in pars. (c) and (d) and subject to the approval of the department, you may determine capture efficiency using any other capture efficiency protocol and test method that satisfies the criteria of either the DQO or LCL approach as described in 40 CFR part 63, Subpart KK, Appendix A, incorporated by reference in s. NR 484.04 (24).

(7) HOW DO I DETERMINE THE ADD−ON CONTROL DEVICE EMISSION DESTRUCTION OR REMOVAL EFFICIENCY? You shall use the procedures and test methods in this subsection to determine the add−on control device emission destruction or removal efficiency as part of the performance test required by sub. (1). You shall conduct 3 test runs as specified in s. NR 460.06 (4) (c), and each test run shall last at least one hour.

(a) For all types of add−on control devices, use the test methods specified in subds. 1. to 5.

1. Method 1 or 1A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), as appropriate, to select sampling sites and velocity traverse points.

2. Method 2, 2A, 2C, 2D, 2F or 2G in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), as appropriate, to measure gas volumetric flow rate.

3. Method 3, 3A or 3B in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), as appropriate, for gas analysis to determine dry molecular weight.

4. Method 4 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), to determine stack gas moisture.

5. Methods for determining gas volumetric flow rate, dry molecular weight and stack gas moisture shall be performed, as applicable, during each test run.

(b) Measure total gaseous organic mass emissions as carbon at the inlet and outlet of the add−on control device simultaneously, using either Method 25 or 25A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13).

1. Use Method 25 if the add−on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be more than 50 parts per million (ppm) at the control device outlet.

2. Use Method 25A if the add−on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be 50 ppm or less at the control device outlet.

3. Use Method 25A if the add−on control device is not an oxidizer.

(c) If 2 or more add−on control devices are used for the same emission stream, then you shall measure emissions at the outlet to the atmosphere of each device.

Note: For example, if one add−on control device is a concentrator with an outlet to the atmosphere for the high−volume dilute stream that has been treated by the concentrator, and a second add−on control device is an oxidizer with an outlet to the atmosphere for the low−volume concentrated stream that is treated with the oxidizer, you shall measure emissions at the outlet of the oxidizer and the high volume dilute stream outlet of the concentrator.

(d) For each test run, determine the total gaseous organic emissions mass flow rates for the inlet and the outlet of the add−on control device, using Equation 1 of this subsection. If there is more than one inlet or outlet to the add−on control device, you shall cal-

culate the total gaseous organic mass flow rate using Equation 1 for each inlet and each outlet and then total all of the inlet emissions and total all of the outlet emissions.

$$M_f = Q_{sd} C_c (12)(0.0416)(10^{-6})$$

(Equation 1)

where:

M_f is the total gaseous organic emissions mass flow rate, kg per hour (h)

C_c is the concentration of organic compounds as carbon in the vent gas, as determined by Method 25 or Method 25A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), parts per million by volume (ppmv), dry basis

Q_{sd} is the volumetric flow rate of gases entering or exiting the add−on control device, as determined by Method 2, 2A, 2C, 2D, 2F or 2G in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), dry standard cubic meters/hour (dscm/h)

0.0416 is the conversion factor for molar volume, kg−moles per cubic meter (mol/m^3) (at 293 Kelvin (K) and 760 millimeters of mercury (mmHg))

(e) For each test run, determine the add−on control device organic emissions destruction or removal efficiency, using the following equation:

$$DRE = \frac{M_{fi} - M_{fo}}{M_{fi}} x100$$

(Equation 2)

where:

DRE is the organic emissions destruction or removal efficiency of the add−on control device, percent

M_{fi} is the total gaseous organic emissions mass flow rate at the inlet to the add−on control device, using Equation 1 of this subsection, kg/h

M_{fo} is the total gaseous organic emissions mass flow rate at the outlet of the add−on control device, using Equation 1 of this subsection, kg/h

(f) Determine the emission destruction or removal efficiency of the add−on control device as the average of the efficiencies determined in the 3 test runs and calculated in Equation 2 of this subsection.

(8) HOW DO I ESTABLISH THE EMISSION CAPTURE SYSTEM AND ADD−ON CONTROL DEVICE OPERATING LIMITS DURING THE PERFORMANCE TEST? During the performance test required by sub. (1) and described in subs. (5), (6) and (7), you shall establish the operating limits required by s. NR 465.33 (3) according to this subsection, unless you have received approval for alternative monitoring and operating limits under s. NR 460.07 (6) as specified in s. NR 465.33 (3).

(a) *Thermal oxidizers*. If your add−on control device is a thermal oxidizer, establish the operating limits according to subds. 1. and 2.

1. During the performance test, you shall monitor and record the combustion temperature at least once every 15 minutes during each of the 3 test runs. You shall monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

2. Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature shall be the minimum operating limit for your thermal oxidizer.

(b) *Catalytic oxidizers*. If your add−on control device is a catalytic oxidizer, establish the operating limits according to either subds. 1. and 2. or subds. 3. and 4.

1. During the performance test, you shall monitor and record the temperature just before the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes during each of the 3 test runs.

2. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed and the average temperature difference across the catalyst bed maintained during the performance test. The average temperature just before the catalyst bed and the average temperature difference across the catalyst bed shall be the minimum operating limits for your catalytic oxidizer.

3. You shall monitor the temperature at the inlet to the catalyst bed and implement a site−specific inspection and maintenance plan for your catalytic oxidizer as specified in subd. 4. During the performance test, you shall monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the 3 test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed during the performance test. This average temperature shall be the minimum operating limit for your catalytic oxidizer.

4. You shall develop and implement an inspection and maintenance plan for your catalytic oxidizers for which you elect to monitor according to subd. 3. The plan shall address, at a minimum, the elements specified in subd. 4. a. to c.

a. Annual sampling and analysis of the catalyst conversion efficiency following the manufacturer's or catalyst supplier's recommended procedures. If problems are found during the catalyst activity test, you shall replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations.

b. Monthly external inspection of the catalytic oxidizer system, including the burner assembly and fuel supply lines for problems and, as necessary, adjustment of the equipment to assure proper air−to−fuel mixtures.

c. Annual internal inspection of the catalyst bed to check for channeling, abrasion and settling. If problems are found during the annual internal inspection of the catalyst, you shall replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations. If the catalyst bed is replaced and is not of like or better kind and quality as the old catalyst, then you shall conduct a new performance test to determine destruction efficiency according to sub. (7). If a catalyst bed is replaced and the replacement catalyst is of like or better kind and quality as the old catalyst, then a new performance test to determine destruction efficiency is not required and you may continue to use the previously established operating limits for that catalytic oxidizer.

(c) *Regenerative carbon adsorbers*. If your add−on control device is a regenerative carbon adsorber, establish the operating limits according to subds. 1. and 2.

1. You shall monitor and record the total regeneration desorbing gas mass flow for each regeneration cycle, and the carbon bed temperature after each carbon bed regeneration and cooling cycle for the regeneration cycle either immediately preceding or immediately following the performance test.

2. The operating limits for your regenerative carbon adsorber shall be the minimum total desorbing gas mass flow recorded during the regeneration cycle and the maximum carbon bed temperature recorded after the cooling cycle.

(d) *Condensers*. If your add−on control device is a condenser, establish the operating limits according to subds. 1. and 2.

1. During the performance test, you shall monitor and record the product side condenser outlet gas temperature at least once every 15 minutes during each of the 3 test runs.

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2. Use the data collected during the performance test to calculate and record the average condenser outlet gas temperature maintained during the performance test. This average condenser outlet gas temperature shall be the maximum operating limit for your condenser.

(e) *Concentrators*. If your add−on control device includes a concentrator, you shall establish operating limits for the concentrator according to subds. 1. to 4.

1. During the performance test, you shall monitor and record the desorption concentrate stream gas temperature at least once every 15 minutes during each of the 3 runs of the performance test.

2. Use the data collected during the performance test to calculate and record the average temperature. This average temperature shall be the minimum operating limit for the desorption concentrate gas stream temperature.

3. During the performance test, you shall monitor and record the pressure drop of the dilute stream across the concentrator at least once every 15 minutes during each of the 3 runs of the performance test.

4. Use the data collected during the performance test to calculate and record the average pressure drop. This average pressure drop shall be the minimum operating limit for the dilute stream across the concentrator.

(f) *Emission capture systems*. For each capture device that is not part of a PTE that meets the criteria of sub. (6) (a), establish an operating limit for either the gas volumetric flow rate or duct static pressure, as specified in subds. 1. and 2. The operating limit for a PTE is specified in Table 1 of this subchapter.

1. During the capture efficiency determination required by sub. (1) and described in subs. (5) and (6), you shall monitor and record either the gas volumetric flow rate or the duct static pressure for each separate capture device in your emission capture system at least once every 15 minutes during each of the 3 test runs at a point in the duct between the capture device and the add−on control device inlet.

2. Calculate and record the average gas volumetric flow rate or duct static pressure for the 3 test runs for each capture device. This average gas volumetric flow rate or duct static pressure shall be the minimum operating limit for that specific capture device.

(9) WHAT ARE THE REQUIREMENTS FOR CONTINUOUS PARAMETER MONITORING SYSTEM INSTALLATION, OPERATION AND MAINTENANCE? (a) *General*. You shall install, operate and maintain each CPMS specified in pars. (c), (e), (f) and (g) according to subds. 1. to 6. You shall install, operate and maintain each CPMS specified in pars. (b) and (d) according to subds. 3. to 5.

1. The CPMS shall complete a minimum of one cycle of operation for each successive 15−minute period. You shall have a minimum of 4 equally spaced successive cycles of CPMS operation in one hour.

2. You shall determine the average of all recorded readings for each successive 3−hour period of the emission capture system and add−on control device operation.

3. You shall record the results of each inspection, calibration and validation check of the CPMS.

4. You shall maintain the CPMS at all times and have available necessary parts for routine repairs of the monitoring equipment.

5. You shall operate the CPMS and collect emission capture system and add−on control device parameter data at all times that a controlled coating operation is operating, except during monitoring malfunctions, associated repairs and required quality assurance or control activities, including, if applicable, calibration checks and required zero and span adjustments.

6. You may not use emission capture system or add−on control device parameter data recorded during monitoring malfunctions, associated repairs, out−of−control periods or required quality assurance or control activities when calculating data averages. You shall use all the data collected during all other periods in calculating the data averages for determining compliance with the emission capture system and add−on control device operating limits.

7. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the CPMS to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out−of−control and data are not available for required calculations is a deviation from the monitoring requirements.

(b) *Capture system bypass line*. You shall meet the requirements of subds. 1. and 2. for each emission capture system that contains bypass lines that could divert emissions away from the add−on control device to the atmosphere.

1. You shall monitor or secure the valve or closure mechanism controlling the bypass line in a non−diverting position in such a way that the valve or closure mechanism cannot be opened without creating a record that the valve was opened. The method used to monitor or secure the valve or closure mechanism shall meet one of the requirements specified in subd. 1. a. to e.

a. Install, calibrate, maintain and operate according to the manufacturer's specifications a flow control position indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add−on control device or diverted from the add−on control device. The time of occurrence and flow control position shall be recorded, as well as every time the flow direction is changed. The flow control position indicator shall be installed at the entrance to any bypass line that could divert the emissions away from the add−on control device to the atmosphere.

b. Secure any bypass line valve in the closed position with a car−seal or a lock−and−key type configuration. You shall visually inspect the seal or closure mechanism at least once every month to ensure that the valve is maintained in the closed position, and the emissions are not diverted away from the add−on control device to the atmosphere.

c. Ensure that any bypass line valve is in the closed (non−diverting) position through monitoring of valve position at least once every 15 minutes. You shall inspect the monitoring system at least once every month to verify that the monitor will indicate valve position.

d. Use an automatic shutdown system in which the coating operation is stopped when flow is diverted by the bypass line away from the add−on control device to the atmosphere when the coating operation is running. You shall inspect the automatic shutdown system at least once every month to verify that it will detect diversions of flow and shut down the coating operation.

e. Install, calibrate, maintain and operate according to the manufacturer's specifications a flow direction indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add−on control device or diverted from the add−on control device. Each time the flow direction changes, the next reading of the time of occurrence and flow direction shall be recorded. The flow direction indicator shall be installed in each bypass line or air makeup supply line that could divert the emissions away from the add−on control device to the atmosphere.

2. If any bypass line is opened, you shall include a description of why the bypass line was opened and the length of time it remained open in the semiannual compliance reports required in s. NR 465.35 (2).

(c) *Thermal oxidizers and catalytic oxidizers*. If you are using a thermal oxidizer or catalytic oxidizer as an add−on control device, including those used with concentrators or with carbon

adsorbers to treat desorbed concentrate streams, you shall comply with the requirements in subds. 1. to 3.

1. For a thermal oxidizer, install a gas temperature monitor in the firebox of the thermal oxidizer or in the duct immediately downstream of the firebox before any substantial heat exchange occurs.

2. For a catalytic oxidizer, install gas temperature monitors upstream or downstream or both of the catalyst bed as required in sub. (8) (b).

3. For all thermal oxidizers and catalytic oxidizers, you shall meet the requirements in par. (a) and the requirements in subd. 3. a. to e. for each gas temperature monitoring device.

a. Locate the temperature sensor in a position that provides a representative temperature.

b. Use a temperature sensor with a measurement sensitivity of 5°F or 1.0% of the temperature value, whichever is larger.

c. Before using the sensor for the first time or when relocating or replacing the sensor, perform a validation check by comparing the sensor output to a calibrated temperature measurement device or by comparing the sensor output to a simulated temperature.

d. Conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor output to redundant temperature sensors, to calibrated temperature measurement devices, or to temperature simulation devices.

e. Conduct a visual inspection of each sensor every quarter if redundant temperature sensors are not used.

(d) *Regenerative carbon adsorbers*. If you are using a regenerative carbon adsorber as an add−on control device, you shall monitor the total regeneration desorbing gas mass flow for each regeneration cycle, the carbon bed temperature after each regeneration and cooling cycle, and comply with par. (a) 3. to 5. and subds. 1. to 3.

1. The regeneration desorbing gas mass flow monitor shall be an integrating device having a measurement sensitivity of plus or minus 10% capable of recording the total regeneration desorbing gas mass flow for each regeneration cycle.

2. The carbon bed temperature monitor shall be capable of recording the temperature within 15 minutes of completing any carbon bed cooling cycle.

3. For all regenerative carbon adsorbers, you shall meet the requirements in par. (c) 3. a. to e. for each temperature monitoring device.

(e) *Condensers*. If you are using a condenser, you shall monitor the product side condenser outlet gas temperature and comply with par. (a) and subds. 1. and 2.

1. The temperature monitor shall provide a gas temperature record at least once every 15 minutes.

2. For all condensers, you shall meet the requirements in par. (c) 3. for each temperature monitoring device.

(f) *Concentrators*. If you are using a concentrator, such as a zeolite wheel or rotary carbon bed concentrator, you shall comply with the requirements in subds. 1. and 2.

1. You shall install a temperature monitor in the desorption gas stream. The temperature monitor shall meet the requirements in pars. (a) and (c) 3.

2. You shall install a device to monitor pressure drop across the zeolite wheel or rotary carbon bed. The pressure monitoring device shall meet the requirements in pars. (a) and (g) 2.

(g) *Emission capture systems*. The capture system monitoring system shall comply with the applicable requirements in subds. 1. and 2.

1. For each flow measurement device, you shall meet the requirements in par. (a) and subd. 1. a. to g.

a. Locate a flow sensor in a position that provides a representative flow measurement in the duct from each capture device in the emission capture system to the add−on control device.

b. Use a flow sensor with an accuracy of at least 10% of the flow.

c. Perform an initial sensor calibration in accordance with the manufacturer's requirements.

d. Perform a validation check before initial use or upon relocation or replacement of a sensor. Validation checks include comparison of sensor values with electronic signal simulations or via relative accuracy testing.

e. Conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor values with electronic signal simulations or via relative accuracy testing.

f. Perform leak checks monthly.

g. Perform visual inspections of the sensor system quarterly if there is no redundant sensor.

2. For each pressure drop measurement device, you shall comply with the requirements in par. (a) and subd. 2. a. to g.

a. Locate the pressure sensor in or close to a position that provides a representative measurement of the pressure drop across each opening you are monitoring.

b. Use a pressure sensor with an accuracy of at least 0.5 inches of water column or 5% of the measured value, whichever is larger.

c. Perform an initial calibration of the sensor according to the manufacturer's requirements.

d. Conduct a validation check before initial operation or upon relocation or replacement of a sensor. Validation checks include comparison of sensor values to calibrated pressure measurement devices or to pressure simulation using calibrated pressure sources.

e. Conduct accuracy audits every quarter and after every deviation. Accuracy audits include comparison of sensor values to calibrated pressure measurement devices or to pressure simulation using calibrated pressure sources.

f. Perform monthly leak checks on pressure connections. A pressure of at least 1.0 inches of water column to the connection shall yield a stable sensor result for at least 15 seconds.

g. Perform a visual inspection of the sensor at least monthly if there is no redundant sensor.

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Table 1

Operating Limits if Using the Emission Rate With Add−On Controls Option in s. NR 465.33 (2) (c)

If you are required to comply with operating limits by s. NR 465.33 (3) (b), you shall comply with the applicable operating limits in the following table.

For the following device:	You shall meet the following operating limit:	And you shall demonstrate continuous compliance with the operating limit by:
(1) Thermal oxidizer	(a) The average combustion temperature in any 3−hour period may not fall below the combustion temperature limit established according to s. NR 465.38 (8) (a).	1. Collecting the combustion temperature data according to s. NR 465.38 (9) (c); 2. Reducing the data to 3−hour block averages; and 3. Maintaining the 3−hour average combustion temperature at or above the temperature limit.
(2) Catalytic oxidizer	(a) The average temperature measured just before the catalyst bed in any 3−hour period may not fall below the limit established according to s. NR 465.38 (8) (b); and either par. (b) or (c).	1. Collecting the temperature data according to s. NR 465.38 (9) (c); 2. Reducing the data to 3−hour block averages; and 3. Maintaining the 3−hour average temperature before the catalyst bed at or above the temperature limit.
	(b) Ensure that the average temperature difference across the catalyst bed in any 3−hour period does not fall below the temperature difference limit established according to s. NR 465.38 (8) (b) 2.	1. Collecting the temperature data according to s. NR 465.38 (9) (c); 2. Reducing the data to 3−hour block averages; and 3. Maintaining the 3−hour average temperature difference at or above the temperature difference limit.
	(c) Develop and implement an inspection and maintenance plan according to s. NR 465.38 (8) (b) 4.	1. Maintaining an up−to−date inspection and maintenance plan, records of annual catalyst activity checks, records of monthly inspections of the oxidizer system, and records of the annual internal inspections of the catalyst bed. If a problem is discovered during a monthly or annual inspection required by s. NR 465.38 (8) (b) 4., you shall take corrective action as soon as practicable consistent with the manufacturer's recommendations.

Table 1 (Continued)
Operating Limits if Using the Emission Rate With Add−On Controls Option in s. NR 465.33 (2) (c)

For the following device:	You shall meet the following operating limit:	And you shall demonstrate continuous compliance with the operating limit by:
(3) Regenerative carbon adsorber	(a) The total regeneration desorbing gas mass flow for each carbon bed regeneration cycle may not fall below the total regeneration desorbing gas mass flow limit established according to s. NR 465.38 (8) (c).	1. Measuring the total regeneration desorbing gas mass flow for each regeneration cycle according to s. NR 465.38 (9) (d); and 2. Maintaining the total regeneration desorbing gas mass flow at or above the mass flow limit.
	(b) The temperature of the carbon bed, after completing each regeneration and any cooling cycle, may not exceed the carbon bed temperature limit established according to s. NR 465.38 (8) (c).	1. Measuring the temperature of the carbon bed after completing each regeneration and any cooling cycle according to s. NR 465.38 (9) (d); and 2. Operating the carbon beds so that each carbon bed is not returned to service after completing each regeneration and any cooling cycle until the recorded temperature of the carbon bed is at or below the temperature limit.
(4) Condenser	(a) The average condenser outlet gas temperature in any 3−hour period may not exceed the temperature limit established according to s. NR 465.38 (8) (d).	1. Collecting the condenser outlet gas temperature according to s. NR 465.38 (9) (e); 2. Reducing the data to 3− hour block averages; and 3. Maintaining the 3−hour average gas temperature at the outlet at or below the temperature limit.
(5) Concentrators, including zeolite wheels and rotary carbon adsorbers	(a) The average gas temperature of the desorption concentrate stream in any 3− hour period may not fall below the limit established according to s. NR 465.38 (8) (e).	1. Collecting the temperature data according to s. NR 465.38 (9) (f); 2. Reducing the data to 3−hour block averages; and 3. Maintaining the 3−hour average temperature at or above the temperature limit.
	(b) The average pressure drop of the dilute stream across the concentrator in any 3− hour period may not fall below the limit established according to s. NR 465.38 (8) (e).	1. Collecting the pressure drop data according to s. NR 465.38 (9) (f); 2. Reducing the pressure drop data to 3−hour block averages; and 3. Maintaining the 3−hour average pressure drop at or above the pressure drop limit.

Table 1 (Continued)
Operating Limits if Using the Emission Rate With Add−On Controls Option in s. NR 465.33 (2) (c)

For the following device:	You shall meet the following operating limit:	And you shall demonstrate continuous compliance with the operating limit by:
(6) Emission capture system that is a PTE according to s. NR 465.38 (6) (a)	(a) The direction of the air flow at all times shall be into the enclosure; and either (b) or (c) shall be satisfied.	1. Collecting the direction of air flow, and either the facial velocity of air through all natural draft openings according to s. NR 465.38 (9) (g) 1. or the pressure drop across the enclosure according to s. NR 465.38 (9) (g) 2.; and 2. Maintaining the facial velocity of air flow through all natural draft openings or the pressure drop at or above the facial velocity limit or pressure drop limit, and maintaining the direction of air flow into the enclosure at all times.
	(b) The average facial velocity of air through all natural draft openings in the enclosure shall be at least 200 feet per minute.	1. See items (6)(a)1. and 2.
	(c) The pressure drop across the enclosure shall be at least 0.007 inch H_2O, as established in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).	1. See items (6)(a)1. and 2.
(7) Emission capture system that is not a PTE according to s. NR 465.38 (6) (a)	(a) The average gas volumetric flow rate or duct static pressure in each duct between a capture device and add−on control device inlet in any 3−hour period may not fall below the average volumetric flow rate or duct static pressure limit established for that capture device according to s. NR 465.38 (8) (f).	1. Collecting the gas volumetric flow rate or duct static pressure for each capture device according to s. NR 465.38 (9) (g); 2. Reducing the data to 3− hour block averages; and 3. Maintaining the 3−hour average gas volumetric flow rate or duct static pressure for each capture device at or above the gas volumetric flow rate or duct static pressure limit.

Table 2

Default Organic HAP Mass Fraction for Solvents and Solvent Blends

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data and which match either the solvent blend name or the chemical abstract series (CAS) number. If a solvent blend matches both the name and CAS number for an entry, that entry's organic HAP mass fraction shall be used for that solvent blend. Otherwise, use the organic HAP mass fraction for the entry matching either the solvent blend name or CAS number, or use the organic HAP mass fraction from Table 3 of this subchapter if neither the name or CAS number match.

Solvent or Solvent Blend	CAS No.	Average Organic HAP Mass Fraction	Typical Organic HAP, percent by mass
(1) Toluene	108−88−3	1.0	toluene
(2) Xylenes	1330−20−7	1.0	xylenes, ethylbenzene
(3) Hexane	110−54−3	0.5	n−hexane
(4) n−Hexane	110−54−3	1.0	n−hexane
(5) Ethylbenzene	100−41−4	1.0	ethylbenzene
(6) Aliphatic 140	−−−−−	0	none
(7) Aromatic 100	−−−−−	0.02	1% xylene, 1% cumene
(8) Aromatic 150	−−−−−	0.09	naphthalene
(9) Aromatic naphtha	64742−95−6	0.02	1% xylene, 1% cumene
(10) Aromatic solvent	64742−94−5	0.1	naphthalene
(11) Exempt mineral spirits	8032−32−4	0	none
(12) Ligroines (VM & P)	8032−32−4	0	none
(13) Lactol spirits	64742−89−6	0.15	toluene
(14) Low aromatic white spirit	64742−82−1	0	none
(15) Mineral spirits	64742−88−7	0.01	xylenes
(16) Hydrotreated naphta	64742−48−9	0	none
(17) Hydrotreated light distillate	64742−82−1	0	none
(18) Stoddard solvent	8052−41−3	0.01	xylenes
(19) Super high−flash naphta	64742−95−6	0.05	xylenes
(20) Varsol® solvent	8052−49−3	0.01	0.5% xylenes, 0.5% ethylbenzene
(21) VM & P naphtha	64742−89−8	0.06	3% toluene, 3% xylene
(22) Petroleum distillate mixture	68477−31−6	0.08	4% naphthalene, 4% biphenyl

Table 3

Default Organic HAP Mass Fraction for Petroleum Solvent Groups [a]

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data.

Solvent Type	Average Organic HAP Mass Fraction	Typical Organic HAP, percent by mass
Aliphatic [b]	0.03	1% Xylene, 1% Toluene and 1% Ethylbenzene.
Aromatic [c]	0.06	4% Xylene, 1% Toluene and 1% Ethylbenzene.

a Use this table only if the solvent blend does not match any of the solvent blends in Table 2 by either solvent blend name or CAS number and you only know whether the blend is aliphatic or aromatic.

b Mineral Spirits 135, Mineral Spirits 150 EC, Naphtha, Mixed Hydrocarbon, Aliphatic Hydrocarbon, Aliphatic Naphtha, Naphthol Spirits, Petroleum Spirits, Petroleum Oil, Petroleum Naphtha, Solvent Naphtha, Solvent Blend.

c Medium−flash Naphtha, High−flash Naphtha, Aromatic Naphtha, Light Aromatic Naphtha, Light Aromatic Hydrocarbons, Aromatic Hydrocarbons, Light Aromatic Solvent.

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Subchapter V — Surface Coating of Miscellaneous Metal Parts and Products

NR 465.41 What this subchapter covers. (1) WHAT IS THE PURPOSE OF THIS SUBCHAPTER? This subchapter establishes national emission standards for hazardous air pollutants (NESHAP) for miscellaneous metal parts and products surface coating facilities. This subchapter also establishes requirements to demonstrate initial and continuous compliance with the emission limits specified in s. NR 465.43 (1).

Note: This subchapter is based on the federal regulations contained in 40 CFR part 63 Subpart MMMM, as last revised April 26, 2004.

(2) AM I SUBJECT TO THIS SUBCHAPTER? (a) Miscellaneous metal parts and products include metal components of the following types of products as well as the products themselves: motor vehicle parts and accessories, bicycles and sporting goods, recreational vehicles, extruded aluminum structural components, railroad cars, heavy duty trucks, medical equipment, lawn and garden equipment, electronic equipment, magnet wire, steel drums, industrial machinery, metal pipes, and numerous other industrial, household and consumer products. Except as provided in par. (c), the source category to which this subchapter applies is the surface coating of any miscellaneous metal parts or products, as described in subd. 1., and it includes the sub−categories listed in subds. 2. to 6.

1. Surface coating is the application of coating to a substrate. When application of coating to a substrate occurs, then surface coating also includes associated activities, such as surface preparation, cleaning, mixing and storage. However, these activities do not comprise surface coating if they are not directly related to the application of the coating. Coating application with hand−held, non−refillable aerosol containers, touch−up markers, marking pens or the application of paper film or plastic film which may be pre−coated with an adhesive by the manufacturer are not coating operations for the purposes of this subchapter.

2. The general use coating sub−category includes all surface coating operations that are not high performance, magnet wire, rubber−to−metal or extreme performance fluoropolymer coating operations.

3. The high performance coating sub−category includes surface coating operations that are performed using coatings that meet the definition of high performance architectural coating or high temperature coating in s. NR 465.42 (22).

4. The magnet wire coating sub−category includes surface coating operations that are performed using coatings that meet the definition of magnet wire coatings in s. NR 465.42 (26).

5. The rubber−to−metal coatings sub−category includes surface coating operations that are performed using coatings that meet the definition of rubber−to−metal coatings in s. NR 465.42 (39).

6. The extreme performance fluoropolymer coatings sub−category includes surface coating operations that are performed using coatings that meet the definition of extreme performance fluoropolymer coatings in s. NR 465.42 (18).

(b) You are subject to this subchapter if you own or operate a new, reconstructed or existing affected source, as defined in sub. (3), that uses 946 liters (250 gallons) per year, or more, of coatings that contain hazardous air pollutants (HAP) in the surface coating of miscellaneous metal parts and products defined in par. (a); and that is a major source, is located at a major source or is part of a major source of emissions of HAP. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year or any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year. You do not need to include coatings that meet the definition of non−HAP coating contained in s. NR 465.42 (31) in determining whether you use 946 liters (250 gallons) per year, or more, of coatings in the surface coating of miscellaneous metal parts and products.

(c) This subchapter does not apply to surface coating or a coating operation that meets any of the criteria of subds. 1. to 17.

1. A coating operation conducted at a facility where the facility uses only coatings, thinners and other additives, and cleaning materials that contain no organic HAP, as determined according to s. NR 465.46 (2) (a).

2. Surface coating operations that occur at research or laboratory facilities, or are part of janitorial, building and facility maintenance operations, or that occur at hobby shops that are operated for noncommercial purposes.

3. Coatings used in volumes of less than 189 liters (50 gallons) per year, provided that the total volume of coatings exempt under this paragraph does not exceed 946 liters (250 gallons) per year at the facility.

4. The surface coating of metal parts and products performed on−site at installations owned or operated by the armed forces of the United States, including the Coast Guard and the National Guard of any state, or the National Aeronautics and Space Administration, or the surface coating of military munitions manufactured by or for the armed forces of the United States, including the Coast Guard and the National Guard of any state.

5. Surface coating where plastic is extruded onto metal wire or cable or metal parts or products to form a coating.

6. Surface coating of metal components of wood furniture that meet the applicability criteria for wood furniture manufacturing in subch. I.

7. Surface coating of metal components of large appliances that meet the applicability criteria for large appliance surface coating in subch. III.

8. Surface coating of metal components of metal furniture that meet the applicability criteria for metal furniture surface coating in 40 CFR part 63, Subpart RRRR.

9. Surface coating of metal components of wood building products that meet the applicability criteria for wood building products surface coating in 40 CFR part 63, Subpart QQQQ.

10. Surface coating of metal components of aerospace vehicles that meet the applicability criteria for aerospace manufacturing and rework in 40 CFR part 63, Subpart GG.

11. Surface coating of metal parts intended for use in an aerospace vehicle or component using specialty coatings as defined in 40 CFR part 63, Subpart GG, Appendix A.

12. Surface coating of metal components of ships that meet the applicability criteria for shipbuilding and ship repair in 40 CFR part 63, Subpart II.

13. Surface coating of metal using a web coating process that meets the applicability criteria for paper and other web coating in 40 CFR part 63, Subpart JJJJ.

14. Surface coating of metal using a coil coating process that meets the applicability criteria for metal coil coating in 40 CFR part 63, Subpart SSSS.

15. Surface coating of boats or metal parts of boats, including the use of assembly adhesives, where the facility meets the applicability criteria for boat manufacturing facilities in 40 CFR part 63, Subpart VVVV, except where the surface coating of the boat is a metal coating operation performed on personal watercraft or parts of personal watercraft. This subchapter does apply to metal coating operations performed on personal watercraft and parts of personal watercraft.

16. Surface coating of assembled on−road vehicles that meet the applicability criteria for the assembled on−road vehicle sub−category in plastic parts and products surface coating in subch. IV.

17. Surface coating of metal components of automobiles and light−duty trucks that meets the applicability criteria in 40 CFR

63.3082(b) for the surface coating of automobiles and light−duty trucks NESHAP in 40 CFR part 63, Subpart IIII, at a facility that meets the applicability criteria in 40 CFR 63.3081(b).

(d) If your facility meets the applicability criteria in 40 CFR 63.3081(b) of the surface coating of automobiles and light−duty trucks NESHAP in 40 CFR part 63, Subpart IIII, and you perform surface coating of metal parts or products that meets both the applicability criteria in 40 CFR 63.3082(c) and the applicability criteria of this subchapter, then, for the surface coating of any or all of your metal parts or products that meets the applicability criteria in 40 CFR 63.3082(c), you may choose to comply with the requirements of 40 CFR part 63, Subpart IIII, in lieu of complying with the requirements in this subchapter. Surface coating operations on metal parts or products not intended for use in automobiles or light−duty trucks, such as parts for motorcycles or lawn mowers, cannot be made part of your affected source under 40 CFR part 63, Subpart IIII.

(e) If you own or operate an affected source that meets the applicability criteria of this subchapter and at the same facility you also perform surface coating that meets the applicability criteria of any other final surface coating NESHAP in 40 CFR part 63 or this chapter, you may choose to comply as specified in subd. 1., 2. or 3.

1. You may have each surface coating operation that meets the applicability criteria of a separate NESHAP comply with that NESHAP separately.

2. You may comply with the emission limit representing the predominant surface coating activity at your facility, as determined according to subd. 2. a. and b. However, you may not establish high performance, rubber−to−metal or extreme performance fluoropolymer coating operations as the predominant activity. You may not consider any surface coating activity that is subject to the surface coating of automobiles and light−duty trucks NESHAP in 40 CFR part 63, Subpart IIII, in determining the predominant surface coating activity at your facility.

a. If a surface coating operation accounts for 90% or more of the surface coating activity at your facility, which is the predominant activity, then compliance with the emission limits of the predominant activity for all surface coating operations, as provided in s. NR 465.43 (1) (c) 1., constitutes compliance with these and other applicable surface coating NESHAP. In determining predominant activity, you shall include coating activities that meet the applicability criteria of other surface coating NESHAP and constitute more than one percent of total coating activities at your facility. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than one percent of coating activities need not be included in the determination of predominant activity but shall be included in the compliance calculation.

b. You shall use liters (gallons) of solids used as a measure of relative surface coating activity over a representative period of operation. You may estimate the relative volume of coating solids used from parameters other than coating consumption and volume solids content, such as design specifications for the parts or products coated and the number of items produced. The determination of predominant activity shall accurately reflect current and projected coating operations and shall be verifiable through appropriate documentation. The use of parameters other than coating consumption and volume solids content shall be approved by the administrator. You may use data for any reasonable time period of at least one year in determining the relative amount of coating activity, as long as they represent the way the source will continue to operate in the future and are approved by the administrator. You shall determine the predominant activity at your facility and submit the results of that determination with the initial notification required by s. NR 465.45 (1) (b). You shall also determine predominant activity annually and include the determination in the next semi−annual compliance report required by s. NR 465.45 (2) (a).

3. You may comply with a facility−specific emission limit, as provided in s. NR 465.43 (1) (c) 2., calculated from the relative amount of coating activity that is subject to each emission limit. If you elect to comply using the facility−specific emission limit alternative, then compliance with the facility−specific emission limit and the emission limits specified in s. NR 465.43 (1) (a) and (b) for all surface coating operations constitutes compliance with this and other applicable surface coating NESHAP. In calculating a facility−specific emission limit, you shall include coating activities that meet the applicability criteria of other surface coating NESHAP and constitute more than one percent of total coating activities at your facility. You may not consider any surface coating activity that is subject to the surface coating of automobiles and light−duty trucks NESHAP in 40 CFR part 63, Subpart IIII in determining a facility−specific emission limit for your facility. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than one percent of total coating activities need not be included in the calculation of the facility−specific emission limit but shall be included in the compliance calculations.

(3) WHAT PARTS OF MY PLANT DOES THIS SUBCHAPTER COVER? (a) This subchapter applies to each new, reconstructed and existing affected source within each of the 5 sub−categories listed in sub. (2) (a).

(b) The affected source is the collection of all of the items listed in subds. 1. to 4. that are used for surface coating of miscellaneous metal parts and products within each sub−category.

1. All coating operations.

2. All storage containers and mixing vessels in which coatings, thinners and other additives, and cleaning materials are stored or mixed.

3. All manual and automated equipment and containers used for conveying coatings, thinners and other additives, and cleaning materials.

4. All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.

(c) An affected source is a new affected source if you commenced its construction after August 13, 2002 and the construction is of a completely new miscellaneous metal parts and products surface coating facility where previously no miscellaneous metal parts and products surface coating facility had existed.

(d) An affected source is reconstructed if it meets the criteria as defined in s. NR 460.02 (32).

(e) An affected source is existing if it is not new or reconstructed.

(4) WHEN DO I HAVE TO COMPLY WITH THIS SUBCHAPTER? The date by which you shall comply with this subchapter is called the compliance date. The compliance date for each type of affected source is specified in pars. (a) to (c). The compliance date begins the initial compliance period during which you conduct the initial compliance demonstration described in ss. NR 465.46 (1), 465.47 (1) and 465.48 (1).

(a) For a new or reconstructed affected source, the compliance date is the applicable date in subd. 1. or 2.

1. If the initial startup of your new or reconstructed affected source is on or before January 2, 2004, the compliance date is January 2, 2004.

2. If the initial startup of your new or reconstructed affected source occurs after January 2, 2004, the compliance date is the date of initial startup of your affected source.

(b) For an existing affected source, the compliance date is January 2, 2007.

(c) For an area source that increases its emissions or its potential to emit so that it becomes a major source of HAP emissions, the compliance date is specified in subds. 1. and 2.

1. For any portion of the source that becomes a new or reconstructed affected source subject to this subchapter, the compliance date is the date of initial startup of the affected source or January 2, 2004, whichever is later.

2. For any portion of the source that becomes an existing affected source subject to this subchapter, the compliance date is the date one year after the area source becomes a major source or January 2, 2007, whichever is later.

(d) You shall meet the notification requirements in s. NR 465.45 (1) according to the dates specified in that section and in ch. NR 460. Some of the notifications need to be submitted before the compliance dates described in pars. (a) to (c).

History: CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.

NR 465.42 Definitions that apply to this subchapter. For terms not defined in this section, the definitions contained in chs. NR 400 and 460 apply to the terms in this subchapter, with definitions in ch. NR 460 taking precedence over definitions in ch. NR 400. If this section defines a term which is also defined in ch. NR 400 or 460, the definition in this section applies in this subchapter. In this subchapter:

(1) "Additive" means a material that is added to a coating after purchase from a supplier, such as catalysts, activators and accelerators.

(2) "Add−on control" means an air pollution control device, such as a thermal oxidizer or carbon adsorber, that reduces pollution in an air stream by destruction or removal before discharge to the atmosphere.

(3) "Adhesive" or "adhesive coating" means any chemical substance that is applied for the purpose of bonding 2 surfaces together. Products used on humans and animals, adhesive tape, contact paper or any other product with an adhesive incorporated onto or in an inert substrate is not considered adhesives under this subchapter.

(4) "Assembled on−road vehicle coating" means any coating operation in which coating is applied to the surface of some component or surface of a fully assembled motor vehicle or trailer intended for on−road use, including components or surfaces on automobiles and light−duty trucks that have been repaired after a collision or otherwise repainted, fleet delivery trucks, and motor homes and other recreational vehicles, including camping trailers and fifth wheels. Assembled on−road vehicle coating includes the concurrent coating of parts of the assembled on−road vehicle that are painted off−vehicle to protect systems, equipment or to allow full coverage. Assembled on−road vehicle coating does not include surface coating operations that meet the applicability criteria of the automobiles and light−duty trucks NESHAP. Assembled on−road vehicle coating also does not include the use of adhesives, sealants and caulks used in assembling on−road vehicles.

(5) "Capture device" means a hood, enclosure, room, floor sweep or other means of containing or collecting emissions and directing those emissions into an add−on air pollution control device.

(6) "Capture efficiency" or "capture system efficiency" means the portion, expressed as a percentage, of the pollutants from an emission source that is delivered to an add−on control device.

(7) "Capture system" means one or more capture devices intended to collect emissions generated by a coating operation in the use of coatings or cleaning materials, both at the point of application and at subsequent points where emissions from the coatings and cleaning materials occur, such as flash−off, drying or curing. As used in this subchapter, multiple capture devices that collect emissions generated by a coating operation are considered a single capture system.

(8) "Cleaning material" means a solvent used to remove contaminants and other materials, such as dirt, grease, oil and dried or wet coating, from a substrate before or after coating application or from equipment associated with a coating operation, such as spray booths, spray guns, racks, tanks and hangers. Thus, it includes any cleaning material used on substrates or equipment or both.

(9) "Coating" means a material applied to a substrate for decorative, protective or functional purposes. Coating materials include paints, sealants, liquid plastic coatings, caulks, inks, adhesives and masking agents. Decorative, protective or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances, or paper film or plastic film which may be pre−coated with an adhesive by the film manufacturer, are not considered coatings for the purposes of this subchapter. A liquid plastic coating means a coating made from fine particle−size polyvinyl chloride in solution, also referred to as a plastisol.

(10) "Coating operation" means equipment used to apply cleaning materials to a substrate to prepare it for coating application or to remove dried coating; to apply coating to a substrate and to dry or cure the coating after application; or to clean coating operation equipment. A single coating operation may include any combination of these types of equipment, but always includes at least the point at which a given quantity of coating or cleaning material is applied to a given part and all subsequent points in the affected source where organic HAP are emitted from the specific quantity of coating or cleaning material on the specific part. There may be multiple coating operations in an affected source. Coating application with hand−held, non−refillable aerosol containers, touch−up markers or marking pens is not a coating operation for the purposes of this subchapter.

(11) "Coatings solids" means the nonvolatile portion of the coating that makes up the dry film.

(12) "Continuous parameter monitoring system" or "CPMS" means the total equipment that may be required to meet the data acquisition and availability requirements of this subchapter, used to sample, condition, if applicable, analyze and provide a record of coating operation, or capture system, or add−on control device parameters.

(13) "Controlled coating operation" means a coating operation from which some or all of the organic HAP emissions are routed through an emission capture system and add−on control device.

(14) "Deviation" means any instance in which an affected source subject to this subchapter, or an owner or operator of an affected source, does any of the following:

(a) Fails to meet any requirement or obligation established by this subchapter, including any emission limit or operating limit or work practice standard.

(b) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subchapter and that is included in the operating permit for any affected source required to obtain an operating permit.

(c) Fails to meet any emission limit, or operating limit, or work practice standard in this subchapter during startup, shutdown and normal operation, regardless of whether or not the failure is permitted by this subchapter.

(15) "Emission limit" means the aggregate of all requirements associated with a compliance option including emission limit, operating limit and work practice standard.

(16) "Enclosure" means a structure that surrounds a source of emissions and captures and directs the emissions to an add−on control device.

(17) "Exempt compound" means a specific compound that is not considered a VOC due to negligible photochemical reactivity. The exempt compounds are listed in s. NR 400.02 (162).

(18) "Extreme performance fluoropolymer coating" means coatings that are formulated systems based on fluoropolymer resins which often contain bonding matrix polymers dissolved in non−aqueous solvents as well as other ingredients. Extreme performance fluoropolymer coatings are typically used when one or more critical performance criteria are required including a nonstick low−energy surface, dry film lubrication, high resistance to chemical attack, extremely wide operating temperature, high electrical insulating properties or that the surface comply with government or third party specifications for health, safety, reliability or performance. Once applied to a substrate, extreme performance fluoropolymer coatings undergo a curing process that typically requires high temperatures, a chemical reaction or other specialized technology.

(19) "Facility maintenance" means the routine repair or renovation, including the surface coating, of the tools, equipment, machinery and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity.

(20) "General use coating" means any material that meets the definition of coating but does not meet the definition of high performance coating, rubber−to−metal coating, magnet wire coating or extreme performance fluoropolymer coating.

(21) "High performance architectural coating" means any coating applied to architectural subsections which is required to meet the specifications of American Architectural Manufacturer Association's publication number AAMA 2604−02, incorporated by reference in s. NR 484.11 (1).

(22) "High performance coating" means any coating that meets the definition in this section of high performance architectural coating or high temperature coating.

(23) "High temperature coating" means any coating applied to a substrate which during normal use shall withstand temperatures of at least 1000 degrees Fahrenheit.

(24) "Hobby shop" means any surface coating operation, located at an affected source, that is used exclusively for personal, noncommercial purposes by the affected source's employees or assigned personnel.

(25) "Initial startup" means the first time equipment is brought on line in a facility.

(26) "Magnet wire coatings", commonly referred to as "magnet wire enamels", are applied to a continuous strand of wire which will be used to make turns, or windings, in electrical devices such as coils, transformers or motors. Magnet wire coatings provide high dielectric strength and turn−to−turn conductor insulation. This allows the turns of an electrical device to be placed in close proximity to one another which leads to increased coil effectiveness and electrical efficiency.

(27) "Magnet wire coating machine" means equipment which applies and cures magnet wire coatings.

(28) "Manufacturer's formulation data" means data on a material, such as a coating, that are supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material with the test methods specified in s. NR 465.46 (2). Manufacturer's formulation data may include information on density, organic HAP content, volatile organic matter content and coating solids content.

(29) "Mass fraction of organic HAP" means the ratio of the mass of organic HAP to the mass of a material in which it is contained, expressed as kg (lb) of organic HAP per kg (lb) of material.

(30) "Month" means a calendar month or a pre−specified period of 28 days to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

(31) "Non−HAP coating" means, for the purposes of this subchapter, a coating that contains no more than 0.1% by mass of any individual organic HAP that is an OSHA−defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and no more than 1.0% by mass for any other individual HAP.

(32) "Organic HAP content" means the mass of organic HAP emitted per volume of coating solids used for a coating calculated using Equation 2 of s. NR 465.46 (2). The organic HAP content is determined for the coating in the condition it is in when received from its manufacturer or supplier and does not account for any alteration after receipt. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, organic HAP content is the mass of organic HAP that is emitted, rather than the organic HAP content of the coating as it is received.

(33) "Permanent total enclosure" or "PTE" means a permanently installed enclosure that meets the criteria of Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for a PTE and that directs all the exhaust gases from the enclosure to an add−on control device.

(34) "Personal watercraft" means a boat which uses an inboard motor powering a water jet pump as its primary source of motive power and which is designed to be operated by a person or persons sitting, standing or kneeling on the vessel, rather than in the conventional manner of sitting or standing inside the vessel.

(35) "Protective oil" means an organic material that is applied to metal for the purpose of providing lubrication or protection from corrosion without forming a solid film. This definition of protective oil includes lubricating oils, evaporative oils, including those that evaporate completely, and extrusion oils. Protective oils used on miscellaneous metal parts and products include magnet wire lubricants and soft temporary protective coatings that are removed prior to installation or further assembly of a part or component.

(36) "Reactive adhesive" means adhesive systems composed, in part, of volatile monomers that react during the adhesive curing reaction, and, as a result, do not evolve from the film during use. These volatile components instead become integral parts of the adhesive through chemical reaction. At least 70% of the liquid components of the system, excluding water, react during the process.

(37) "Research or laboratory facility" means a facility whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and is not engaged in the manufacture of final or intermediate products for commercial purposes, except in a de minimis manner.

(38) "Responsible official" has the meaning given in s. NR 400.02 (136).

(39) "Rubber−to−metal coatings" are coatings that contain heat−activated polymer systems in either solvent or water that, when applied to metal substrates, dry to a non−tacky surface and react chemically with the rubber and metal during a vulcanization process.

(40) "Surface preparation" means use of a cleaning material on a portion of or all of a substrate. This includes use of a cleaning material to remove dried coating, which is sometimes called depainting.

(41) "Temporary total enclosure" means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source as defined in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

(42) "Thinner" means an organic solvent that is added to a coating after the coating is received from the supplier.

(43) "Total volatile hydrocarbon" or "TVH" means the total amount of nonaqueous volatile organic matter determined according to Methods 204 and 204A to 204F in 40 CFR part 51, Appen-

The Wisconsin Administrative Code on this web site is updated on the 1st day of each month, current as of that date. See also Are the Codes on this Website Official?

dix M, incorporated by reference in s. NR 484.04 (9), and substituting the term TVH each place in the methods where the term VOC is used. The TVH includes both VOC and non−VOC.

(44) "Uncontrolled coating operation" means a coating operation from which none of the organic HAP emissions are routed through an emission capture system and add−on control device.

(45) "Volume fraction of coating solids" means the ratio of the volume of coating solids, also known as the volume of nonvolatiles, to the volume of a coating in which it is contained, liters (gallons) of coating solids per liter (gallon) of coating.

(46) "Wastewater" means water that is generated in a coating operation and is collected, stored or treated prior to being discarded or discharged.

(47) "You" or "your" means the owner or operator of a facility that applies coatings to miscellaneous metal parts or products.

History: CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.

NR 465.43 Emission limits. (1) WHAT EMISSION LIMITS MUST I MEET? (a) For a new or reconstructed affected source, you shall limit organic HAP emissions to the atmosphere from the affected source to the applicable limit specified in subds. 1. to 5., except as specified in par. (c), determined according to the requirements in s. NR 465.46 (2), 465.47 (2) or 465.48 (2).

1. For each new or reconstructed general use coating affected source, limit organic HAP emissions to no more than 0.23 kilograms (kg) (1.9 pounds (lb)) of organic HAP per liter (gallon) of coating solids used during each 12−month compliance period.

2. For each new or reconstructed high performance coating affected source, limit organic HAP emissions to no more than 3.3 kg (27.5 lb) of organic HAP per liter (gallon) of coating solids used during each 12−month compliance period.

3. For each new or reconstructed magnet wire coating affected source, limit organic HAP emissions to no more than 0.050 kg (0.44 lb) of organic HAP per liter (gallon) of coating solids used during each 12−month compliance period.

4. For each new or reconstructed rubber−to−metal coating affected source, limit organic HAP emissions to no more than 0.81 kg (6.8 lb) of organic HAP per liter (gallon) of coating solids used during each 12−month compliance period.

5. For each new or reconstructed extreme performance fluoropolymer coating affected source, limit organic HAP emissions to no more than 1.5 kg (12.4 lb) of organic HAP per liter (gallon) of coating solids used during each 12−month compliance period.

(b) For an existing affected source, you shall limit organic HAP emissions to the atmosphere from the affected source to the applicable limit specified in subds. 1. to 5., except as specified in par. (c), determined according to the requirements in s. NR 465.46 (2), 465.47 (2) or 465.48 (2).

1. For each existing general use coating affected source, limit organic HAP emissions to no more than 0.31 kg (2.6 lb) of organic HAP per liter (gallon) of coating solids used during each 12−month compliance period.

2. For each existing high performance coating affected source, limit organic HAP emissions to no more than 3.3 kg (27.5 lb) of organic HAP per liter (gallon) of coating solids used during each 12−month compliance period.

3. For each existing magnet wire coating affected source, limit organic HAP emissions to no more than 0.12 kg (1.0 lb) of organic HAP per liter (gallon) of coating solids used during each 12−month compliance period.

4. For each existing rubber−to−metal coating affected source, limit organic HAP emissions to no more than 4.5 kg (37.7 lb) of organic HAP per liter (gallon) of coating solids used during each 12−month compliance period.

5. For each existing extreme performance fluoropolymer coating affected source, limit organic HAP emissions to no more than 1.5 kg (12.4 lb) of organic HAP per liter (gallon) of coating solids used during each 12−month compliance period.

(c) If your facility's surface coating operations meet the applicability criteria of more than one of the sub−category emission limits specified in par. (a) or (b), you may comply separately with each sub−category emission limit or comply using one of the alternatives in subd. 1. or 2.

1. If the general use or magnet wire surface coating operations subject to only one of the emission limits specified in par. (a) 1. or 3. or (b) 1. or 3. account for 90% or more of the surface coating activity at your facility, then compliance with that one emission limit in this subchapter for all surface coating operations constitutes compliance with the other applicable emission limits. You shall use liters (gallons) of solids used as a measure of relative surface coating activity over a representative period of operation. You may estimate the relative volume of coating solids used from parameters other than coating consumption and volume solids content. The determination of predominant activity shall accurately reflect current and projected coating operations and shall be verifiable through appropriate documentation. The use of parameters other than coating consumption and volume solids content shall be approved by the administrator. You may use data for any reasonable time period of at least one year in determining the relative amount of coating activity, as long as they represent the way the source will continue to operate in the future and are approved by the administrator. You shall determine the predominant activity at your facility and submit the results of that determination with the initial notification required by s. NR 465.45 (1) (b). Additionally, you shall determine the facility's predominant activity annually and include the determination in the next semi−annual compliance report required by s. NR 465.45 (2) (a).

Note: An example of parameters other than coating consumption and mass solids content for estimating the relative mass of coating solids used would be design specifications for the parts or products coated and the number of items produced.

2. You may calculate and comply with a facility−specific emission limit as described in subd. 2. a. to c. If you elect to comply using the facility−specific emission limit alternative, then compliance with the facility−specific emission limit and the emission limits specified in pars. (a) and (b) for all surface coating operations constitutes compliance with this and other applicable surface coating NESHAP. In calculating a facility−specific emission limit, you shall include coating activities that meet the applicability criteria of the other sub−categories and constitute more than one percent of total coating activities. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than one percent of coating activities need not be included in the determination of predominant activity but shall be included in the compliance calculation.

a. You are required to calculate the facility−specific emission limit for your facility when you submit the notification of compliance status required in s. NR 465.45 (1) (c), and on a monthly basis afterward using the coating data for the relevant 12−month compliance period.

b. Use Equation 1 of this subsection to calculate the facility−specific emission limit for your surface coating operations for each 12−month compliance period:

$$\text{Facility-Specific Emission Limit} = \frac{\sum_{i=1}^{n} (\text{Limit}_i)(\text{Solids}_i)}{\sum_{i=1}^{n} (\text{Solids}_i)} \qquad \text{(Equation 1)}$$

where:

Facility−specific emission limit is the facility−specific emission limit for each 12−month compliance period, kg (lb) of organic HAP per kg (lb) of coating solids used

Limit_i is the new source or existing source emission limit as specified in s. NR 465.43 (1) applicable to coating operation, i, included in the facility−specific emission limit, converted to kg (lb) of organic HAP per kg (lb) of coating solids used, if the emission limit is not already in those units. All emission limits included in the facility−specific emission limit shall be in the same units.

Solids_i is the liters (gallons) of solids used in coating operation, i, in the 12−month compliance period that is subject to emission limit, i, as specified in s. NR 465.43 (1). You may estimate the volume of coating solids used from parameters other than coating consumption and volume solids content, such as design specifications for the parts or products coated and the number of items produced. The use of parameters other than coating consumption and volume solids content shall be approved by the administrator.

n is the number of different coating operations included in the facility−specific emission limit

c. If you need to convert an emission limit in another surface coating NESHAP from kg (lb) of organic HAP per kg (lb) of coating solids used to kg (lb) of organic HAP per liter (gallon) of coating solids used, you shall use the default solids density of 1.26 kg of solids per liter of coating solids (10.5 lb of solids per gallon of coating solids).

(2) WHAT ARE MY OPTIONS FOR MEETING THE EMISSION LIMITS? You shall include all coatings, thinners and other additives, and cleaning materials used in the affected source when determining whether the organic HAP emission rate is equal to or less than the applicable emission limit in sub. (1). To make this determination, you shall use at least one of the 3 compliance options listed in pars. (a) to (c). You may apply any of the compliance options to an individual coating operation, or to multiple coating operations as a group, or to the entire affected source. You may use different compliance options for different coating operations, or at different times on the same coating operation. You may employ different compliance options when different coatings are applied to the same part, or when the same coating is applied to different parts. However, you may not use different compliance options at the same time on the same coating operation. If you switch between compliance options for any coating operation or group of coating operations, you shall document this switch as required by s. NR 465.45 (3) (c), and you shall report it in the next semiannual compliance report required in s. NR 465.45 (2).

(a) *Compliant material option.* You shall meet all the requirements of s. NR 465.46 to demonstrate compliance with the applicable emission limit in sub. (1) using this option. To use this option, you shall demonstrate that the organic HAP content of each coating used in the coating operation or operations is less than or equal to the applicable emission limit in sub. (1), and that each thinner and other additive, and cleaning material used contains no organic HAP.

(b) *Emission rate without add−on controls option.* You shall meet all the requirements of s. NR 465.47 to demonstrate compliance with the emission limit in sub. (1) using this option. To use this option, you shall demonstrate that, based on the coatings, thinners and other additives, and cleaning materials used in the coating operation or operations, the organic HAP emission rate for the coating operation or operations is less than or equal to the applicable emission limit in sub. (1), calculated as a rolling 12−month emission rate and determined on a monthly basis.

(c) *Emission rate with add−on controls option.* You shall meet all the requirements of s. NR 465.48 to demonstrate compliance with the emission limits in sub. (1), the operating limits in sub. (3) and the work practice standards in sub. (4) using this option. To use this option, you shall demonstrate that, based on the coatings, thinners and other additives, and cleaning materials used in the coating operation or operations, and the emissions reductions achieved by emission capture systems and add−on controls, the organic HAP emission rate for the coating operation or operations is less than or equal to the applicable emission limit in sub. (1), calculated as a rolling 12−month emission rate and determined on a monthly basis. If you use this compliance option, you shall also demonstrate that all emission capture systems and add−on control devices for the coating operation or operations meet the operating limits required in sub. (3), except for solvent recovery systems for which you conduct liquid−liquid material balances according to s. NR 465.48 (2) (j), and that you meet the work practice standards required in sub. (4).

(3) WHAT OPERATING LIMITS MUST I MEET? (a) For any coating operation or operations on which you use the compliant material option specified in sub. (2) (a) or the emission rate without add−on controls option specified in sub. (2) (b), you are not required to meet any operating limits.

(b) For any controlled coating operation or operations on which you use the emission rate with add−on controls option specified in sub. (2) (c), except those for which you use a solvent recovery system and conduct a liquid−liquid material balance according to s. NR 465.48 (2) (j), you shall meet the operating limits specified in Table 1 of this subchapter. These operating limits apply to the emission capture and control systems on the coating operations for which you use this option, and you shall establish the operating limits during the performance test according to the requirements in s. NR 465.48 (8). You shall meet the operating limits at all times after you establish them.

(c) If you use an add−on control device other than those listed in Table 1 of this subchapter, or wish to monitor an alternative parameter and comply with a different operating limit, you shall apply to the administrator for approval of alternative monitoring under 40 CFR 63.8(f).

(4) WHAT WORK PRACTICE STANDARDS SHALL I MEET? (a) For any coating operation or operations on which you use the compliant material option specified in sub. (2) (a) or the emission rate without add−on controls option specified in sub. (2) (b), you are not required to meet any work practice standards.

(b) If you use the emission rate with add−on controls option in sub. (2) (c), you shall develop and implement a work practice plan to minimize organic HAP emissions from the storage, mixing and conveying of coatings, thinners, other additives and cleaning materials used in, and waste materials generated by the controlled coating operations for which you use this option; or you shall meet an alternative standard as provided in par. (c). The plan shall specify practices and procedures to ensure that, at a minimum, the elements specified in subds. 1. to 5. are implemented.

1. All organic−HAP−containing coatings, thinners, other additives, cleaning materials and waste materials shall be stored in closed containers.

2. Spills of organic−HAP−containing coatings, thinners, other additives, cleaning materials and waste materials shall be minimized.

3. Organic−HAP−containing coatings, thinners, other additives, cleaning materials and waste materials shall be conveyed from one location to another in closed containers or pipes.

4. Mixing vessels which contain organic−HAP−containing coatings and other materials shall be closed except when adding to, removing or mixing the contents.

5. Emissions of organic HAP shall be minimized during cleaning of storage, mixing and conveying equipment.

(c) As provided in 40 CFR 63.6(g), the U. S. EPA may choose to grant you permission to use an alternative to the work practice standards in this subsection.

History: CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.

NR 465.44 General compliance requirements. (1) WHAT ARE MY GENERAL REQUIREMENTS FOR COMPLYING WITH THIS SUBCHAPTER? (a) You shall be in compliance with the emission limits in this subchapter as specified in subds. 1. and 2.

1. Any coating operation or operations for which you use the compliant material option or the emission rate without add−on controls option shall be, as specified in s. NR 465.43 (2) (a) and (b), in compliance with the applicable emission limit in s. NR 465.43 (1) at all times.

2. Any coating operation or operations for which you use the emission rate with add−on controls option shall be, as specified in s. NR 465.43 (2) (c), in compliance with the emission limits as specified in subd. 2. a. to c.

a. The coating operation or operations shall be in compliance with the applicable emission limit in s. NR 465.43 (1) at all times except during periods of startup, shutdown and malfunction.

b. The coating operation or operations shall be in compliance with the operating limits for emission capture systems and add−on control devices required by s. NR 465.43 (3) at all times except during periods of startup, shutdown and malfunction, and except for solvent recovery systems for which you conduct liquid−liquid material balances according to s. NR 465.48 (2) (j).

c. The coating operation or operations shall be in compliance with the work practice standards in s. NR 465.43 (4) at all times.

(b) You shall always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for purposes of complying with this subchapter, according to the provisions in s. NR 460.05 (4) (a) 1.

(c) If your affected source uses an emission capture system and add−on control device, you shall develop and implement a written startup, shutdown and malfunction plan according to the provisions in s. NR 460.05 (4) (c). The plan shall address the startup, shutdown and corrective actions in the event of a malfunction of the emission capture system or the add−on control device. The plan shall also address any coating operation equipment that may cause increased emissions or that would affect capture efficiency if the process equipment malfunctions, such as conveyors that move parts among enclosures.

(2) WHAT PARTS OF THE GENERAL PROVISIONS APPLY TO ME? You shall comply with the applicable general provisions requirements in ch. NR 460. Appendix MMMM in ch. NR 460 shows which parts of the general provisions in ch. NR 460 apply to you.

History: CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.

NR 465.45 Notifications, reports and records. (1) WHAT NOTIFICATIONS MUST I SUBMIT? (a) *General*. You shall submit the notifications in ss. NR 460.06 (2), 460.07 (6) (c) and 460.08 (2) to (5) and (8) that apply to you by the dates specified in those sections, except as provided in pars. (b) and (c).

(b) *Initial notification*. You shall submit the initial notification required by s. NR 460.08 (2) for a new or reconstructed affected source no later than 120 days after initial startup. For an existing affected source, you shall submit the initial notification no later than one year after January 2, 2004. If you are using compliance with the surface coating of automobiles and light−duty trucks NESHAP in 40 CFR part 63, Subpart IIII, as provided for under s. NR 465.41 (2) (d) to constitute compliance with this subchapter for any or all of your metal parts coating operations, then you shall include a statement to this effect in your initial notification, and no other notifications are required under this subchapter in regard to those metal parts coating operations. If you are complying with another NESHAP that constitutes the predominant activity at your facility under s. NR 465.41 (2) (e) 2. to constitute compliance with this subchapter for your metal parts coating operations, then you shall include a statement to this effect in your initial notification, and no other notifications are required under this subchapter in regard to those metal parts coating operations.

(c) *Notification of compliance status*. You shall submit the notification of compliance status required by s. NR 460.08 (8) no later than 30 calendar days following the end of the initial compliance period described in s. NR 465.46 (1), 465.47 (1) or 465.48 (1) that applies to your affected source. The notification of compliance status shall contain the information specified in subds. 1. to 11. and in s. NR 460.08 (8).

1. Company name and address.

2. Statement by a responsible official with that official's name, title and signature, certifying the truth, accuracy and completeness of the content of the report.

3. Date of the report and beginning and ending dates of the reporting period. The reporting period is the initial compliance period described in s. NR 465.46 (1), 465.47 (1) or 465.48 (1) that applies to your affected source.

4. Identification of the compliance option or options specified in s. NR 465.43 (2) that you used on each coating operation in the affected source during the initial compliance period.

5. Statement of whether or not the affected source achieved the emission limits in s. NR 465.43 (1) for the initial compliance period.

6. If you had a deviation, include the information in subd. 6. a. and b.

a. A description and statement of the cause of the deviation.

b. If you failed to meet the applicable emission limit in s. NR 465.43 (1), include all the calculations you used to determine the kg (lb) of organic HAP emitted per liter (gallon) of coating solids used. You do not need to submit information provided by the materials' suppliers or manufacturers, or test reports.

7. For each of the data items listed in subd. 7. a. to d. that is required by the compliance option you used to demonstrate compliance with the emission limit in s. NR 465.43 (1), include an example of how you determined the value, including calculations and supporting data. Supporting data may include a copy of the information provided by the supplier or manufacturer of the example coating or material, or a summary of the results of testing conducted according to s. NR 465.46 (2) (a), (b) or (c). You do not need to submit copies of any test reports.

a. Mass fraction of organic HAP for one coating, for one thinner or other additive, and for one cleaning material.

b. Volume fraction of coating solids for one coating.

c. Density for one coating, one thinner or other additive, and one cleaning material, except that if you use the compliant material option in s. NR 465.43 (2) (a), only the example coating density is required.

d. The amount of waste materials and the mass of organic HAP contained in the waste materials for which you are claiming an allowance in Equation 1 of s. NR 465.47 (2).

The Wisconsin Administrative Code on this web site is updated on the 1st day of each month, current as of that date. See also Are the Codes on this Website Official?

8. The calculation of kg (lb) of organic HAP emitted per liter (gallon) of coating solids used for the compliance options you used, as specified in subd. 8. a. to c.

a. For the compliant material option in s. NR 465.43 (2) (a), provide an example calculation of the organic HAP content for one coating, using Equation 2 of s. NR 465.46 (2).

b. For the emission rate without add−on controls option specified in s. NR 465.43 (2) (b), provide the calculation of the total mass of organic HAP emissions for each month; the calculation of the total volume of coating solids used each month; and the calculation of the 12−month organic HAP emission rate using Equations 1 and 1A to 1C, 2 and 3, respectively, of s. NR 465.47 (2).

c. For the emission rate with add−on controls option specified in s. NR 465.43 (2) (c), provide the calculation of the total mass of organic HAP emissions for the coatings, thinners and other additives, and cleaning materials used each month, using Equations 1 and 1A to 1C of s. NR 465.47 (2); the calculation of the total volume of coating solids used each month using Equation 2 of s. NR 465.47 (2); the mass of organic HAP emission reduction each month by emission capture systems and add−on control devices using Equations 1 and 1A to 1D of s. NR 465.48 (2) and Equations 2, 3 and 3A to 3C of s. NR 465.48 (2) as applicable; the calculation of the total mass of organic HAP emissions each month using Equation 4 of s. NR 465.48 (2); and the calculation of the 12−month organic HAP emission rate using Equation 5 of s. NR 465.48 (2).

9. For the emission rate with add−on controls option specified in s. NR 465.43 (2) (c), you shall include the information specified in subd. 9. a. to d., except that the requirements in subd. 9. a. to c. do not apply to solvent recovery systems for which you conduct liquid−liquid material balances according to s. NR 465.48 (2) (j).

a. For each emission capture system, a summary of the data and copies of the calculations supporting the determination that the emission capture system is a permanent total enclosure (PTE) or a measurement of the emission capture system efficiency. Include a description of the protocol followed for measuring capture efficiency, summaries of any capture efficiency tests conducted and any calculations supporting the capture efficiency determination. If you use the data quality objective (DQO) or lower confidence limit (LCL) approach, you shall also include the statistical calculations to show you meet the DQO or LCL criteria in 40 CFR part 63, Subpart KK, Appendix A, incorporated by reference in s. NR 484.04 (24). You do not need to submit complete test reports.

b. A summary of the results of each add−on control device performance test. You do not need to submit complete test reports.

c. A list of each emission capture system's and add−on control device's operating limits and a summary of the data used to calculate those limits.

d. A statement of whether or not you developed and implemented the work practice plan required by s. NR 465.43 (4).

10. If you are complying with a single emission limit representing the predominant activity under s. NR 465.43 (1) (c) 1., include the calculations and supporting information used to demonstrate that this emission limit represents the predominant activity as specified in s. NR 465.43 (1) (c) 1.

11. If you are complying with a facility−specific emission limit under s. NR 465.43 (1) (c) 2., include the calculation of the facility−specific emission limit and any supporting information as specified in s. NR 465.43 (1) (c) 2.

(2) WHAT REPORTS MUST I SUBMIT? (a) *Semiannual compliance reports*. You shall submit semiannual compliance reports for each affected source according to the requirements of subds. 1. to 7. The semiannual compliance reporting requirements may be satisfied by reports required under other parts of the Clean Air Act, as specified in subd. 2.

1. 'Dates'. Unless the department has approved or agreed to a different schedule for submission of reports under s. NR 460.09 (1), you shall prepare and submit each semiannual compliance report according to the dates specified in subd. 1. a. to d. The information reported for each of the months in the reporting period shall be based on the last 12 months of data prior to the date of each monthly calculation.

a. The first semiannual compliance report shall cover the first semiannual reporting period, which begins the day after the end of the initial compliance period described in s. NR 465.46 (1), 465.47 (1) or 465.48 (1) that applies to your affected source and ends on June 30 or December 31, whichever date is the first date following the end of the initial compliance period.

b. Each subsequent semiannual compliance report shall cover the subsequent semiannual reporting period from January 1 to June 30 or the semiannual reporting period from July 1 to December 31.

c. Each semiannual compliance report shall be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

d. For each affected source that is subject to permitting regulations pursuant to ch. NR 407, and if the department has established dates for submitting semiannual reports pursuant to s. NR 407.09 (1) (c) 3. a., you may submit the first and subsequent compliance reports according to those dates instead of according to the date specified in subd. 1. c.

2. 'Inclusion with title V report'. Each affected source that has obtained a title V operating permit pursuant to ch. NR 407 shall report all deviations in the semiannual monitoring report required by s. NR 407.09 (1) (c) 3. a. If an affected source submits a semiannual compliance report pursuant to this subsection along with, or as part of, the semiannual monitoring report required by s. NR 407.09 (1) (c) 3. a., and the semiannual compliance report includes all required information concerning deviations from any emission limit in s. NR 465.43 (1), its submission will be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a semiannual compliance report may not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the department.

3. 'General requirements'. The semiannual compliance report shall contain the information specified in subd. 3. a. to g., and the information specified in subds. 4. to 7. and par. (c) 1. that is applicable to your affected source.

a. Company name and address.

b. Statement by a responsible official with that official's name, title and signature, certifying the truth, accuracy and completeness of the content of the report.

c. Date of report and beginning and ending dates of the reporting period. The reporting period is the 6−month period ending on June 30 or December 31. The information reported for each of the 6 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

d. Identification of the compliance option or options specified in s. NR 465.43 (2) that you used on each coating operation during the reporting period. If you switched between compliance options during the reporting period, you shall report the beginning and ending dates for each option you used.

e. If you used the emission rate without add−on controls option or the emission rate with add−on controls option in s. NR 465.43 (2) (b) or (c), the calculation results for each rolling 12−month organic HAP emission rate during the 6−month reporting period.

f. If you used the predominant activity alternative in s. NR 465.43 (1) (c) 1., include the annual determination of predominant

activity if it was not included in the previous semi−annual compliance report.

g. If you used the facility−specific emission limit alternative in s. NR 465.43 (1) (c) 2., include the calculation of the facility−specific emission limit for each 12−month compliance period during the 6−month reporting period.

4. 'No deviations'. If there were no deviations from the emission limits in s. NR 465.43 (1), (3) and (4) that apply to you, the semiannual compliance report shall include a statement that there were no deviations from the emission limits during the reporting period. If you used the emission rate with add−on controls option specified in s. NR 465.43 (2) (c) and there were no periods during which the continuous parameter monitoring systems (CPMS) were out−of−control as specified in s. NR 460.07 (3) (g), the semiannual compliance report shall include a statement that there were no periods during which the CPMS were out−of−control during the reporting period.

5. 'Deviations: compliant material option'. If you used the compliant material option in s. NR 465.43 (2) (a) and there was a deviation from the applicable organic HAP content requirements in s. NR 465.43 (1), the semiannual compliance report shall contain the information in subd. 5. a. to d.

a. Identification of each coating used that deviated from the applicable emission limit in s. NR 465.43 (1), and each thinner, other additive and cleaning material used that contained organic HAP, and the dates and time periods each was used.

b. The calculation of the organic HAP content, using Equation 2 of s. NR 465.46 (2), for each coating identified in subd. 5. a. You do not need to submit background data supporting this calculation, such as information provided by coating suppliers or manufacturers, or test reports.

c. The determination of mass fraction of organic HAP for each thinner, other additive and cleaning material identified in subd. 5. a. You do not need to submit background data supporting this calculation, such as information provided by material suppliers or manufacturers, or test reports.

d. A statement of the cause of each deviation.

6. 'Deviations: emission rate without add−on controls option'. If you used the emission rate without add−on controls option in s. NR 465.43 (2) (b) and there was a deviation from the applicable emission limit in s. NR 465.43 (1), the semiannual compliance report shall contain the information in subd. 6. a. to c.

a. The beginning and ending dates of each compliance period during which the 12−month organic HAP emission rate exceeded the applicable emission limit in s. NR 465.43 (1).

b. The calculations used to determine the 12−month organic HAP emission rate for the compliance period in which the deviation occurred. You shall submit the calculations for Equations 1, 1A to 1C, 2, and 3 of s. NR 465.47 (2); and if applicable, the calculation used to determine mass of organic HAP in waste materials according to s. NR 465.47 (2) (e) 2. You do not need to submit background data supporting these calculations, such as information provided by materials suppliers or manufacturers, or test reports.

c. A statement of the cause of each deviation.

7. 'Deviations: emission rate with add−on controls option'. If you used the emission rate with add−on controls option in s. NR 465.43 (2) (c) and there was a deviation from an emission limit in s. NR 465.43 (1), including any periods when emissions bypassed the add−on control device and were diverted to the atmosphere, the semiannual compliance report shall contain the information in subd. 7. a. to n. This includes periods of startup, shutdown and malfunction during which deviations occurred.

a. The beginning and ending dates of each compliance period during which the 12−month organic HAP emission rate exceeded the applicable emission limit in s. NR 465.43 (1).

b. The calculations used to determine the 12−month organic HAP emission rate for each compliance period in which a deviation occurred. You shall provide the calculation of the total mass of organic HAP emissions for the coatings, thinners, other additives and cleaning materials used each month using Equations 1 and 1A to 1C of s. NR 465.47 (2); and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to s. NR 465.47 (2) (e) 2. the calculation of the total volume of coating solids used each month using Equation 2 of s. NR 465.47 (2); the calculation of the mass of organic HAP emission reduction each month by emission capture systems and add−on control devices using Equations 1 and 1A to 1D of s. NR 465.48 (2), and Equations 2, 3 and 3A to 3C of s. NR 465.48 (2), as applicable; the calculation of the total mass of organic HAP emissions each month using Equation 4 of s. NR 465.48 (2); and the calculation of the 12−month organic HAP emission rate using Equation 5 of s. NR 465.48 (2). You do not need to submit the background data supporting these calculations, such as information provided by materials suppliers or manufacturers, or test reports.

c. The date and time that each malfunction started and stopped.

d. A brief description of the CPMS.

e. The date of the latest CPMS certification or audit.

f. The date and time that each CPMS was inoperative, except for zero (low−level) and high−level checks.

g. The date, time and duration that each CPMS was out−of−control, including the information in s. NR 460.07 (3) (h).

h. The date and time period of each deviation from an operating limit in Table 1 of this subchapter; date and time period of any bypass of the add−on control device; and whether each deviation occurred during a period of startup, shutdown or malfunction or during another period.

i. A summary of the total duration of each deviation from an operating limit in Table 1 of this subchapter and each bypass of the add−on control device during the semiannual reporting period, and the total duration as a percent of the total source operating time during that semiannual reporting period.

j. A breakdown of the total duration of the deviations from the operating limits in Table 1 of this subchapter and bypasses of the add−on control device during the semiannual reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes and other unknown causes.

k. A summary of the total duration of CPMS downtime during the semiannual reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that semiannual reporting period.

L. A description of any changes in the CPMS, coating operation, emission capture system or add−on control device since the last semiannual reporting period.

m. For each deviation from the work practice standards, a description of the deviation, the date and time period of the deviation and the actions you took to correct the deviation.

n. A statement of the cause of each deviation.

(b) *Performance test reports*. If you use the emission rate with add−on controls option in s. NR 465.43 (2) (c), you shall submit reports of performance test results for emission capture systems and add−on control devices no later than 60 days after completing the tests as specified in s. NR 460.09 (4) (b).

(c) *Startup, shutdown, malfunction reports*. If you used the emission rate with add−on controls option in s. NR 465.43 (2) (c) and you had a startup, shutdown or malfunction during the semiannual reporting period, you shall submit the reports specified in subds. 1. and 2.

1. If your actions were consistent with your startup, shutdown and malfunction plan, you shall include the information specified

in s. NR 460.09 (4) in the semiannual compliance report required by par. (a).

2. If your actions were not consistent with your startup, shutdown and malfunction plan, you shall submit an immediate startup, shutdown and malfunction report as described in subd. 2. a. and b.

a. You shall describe the actions taken during the event in a report delivered by facsimile, telephone or other means to the department within 2 working days after starting actions that are inconsistent with the plan.

b. You shall submit a letter to the department within 7 working days after the end of the event, unless you have made alternative arrangements with the department as specified in s. NR 460.09 (4) (e) 2. The letter shall contain the information specified in s. NR 460.09 (4) (e) 2.

(3) WHAT RECORDS MUST I KEEP? You shall collect and keep records of the data and information specified in pars. (a) to (k). Failure to collect and keep the following records is a deviation from the applicable standard:

(a) A copy of each notification and report that you submitted to comply with this subchapter, and the documentation supporting each notification and report. If you are using the predominant activity alternative under s. NR 465.43 (1) (c) 1., you shall keep records of the data and calculations used to determine the predominant activity. If you are using the facility−specific emission limit alternative under s. NR 465.43 (1) (c) 2., you shall keep records of the data used to calculate the facility−specific emission limit for the initial compliance demonstration. You shall also keep records of any data used in each annual predominant activity determination and in the calculation of the facility−specific emission limit for each 12−month compliance period included in the semi−annual compliance reports.

(b) A current copy of information provided by materials suppliers or manufacturers, such as manufacturer's formulation data, or test data used to determine the mass fraction of organic HAP and density for each coating, thinner, other additive and cleaning material, and the volume fraction of coating solids for each coating. If you conducted testing to determine mass fraction of organic HAP, density or volume fraction of coating solids, you shall keep a copy of the complete test report. If you used information provided to you by the manufacturer or supplier of the material that was based on testing, you shall keep the summary sheet of results provided to you by the manufacturer or supplier. You are not required to obtain the test report or other supporting documentation from the manufacturer or supplier.

(c) For each compliance period, the records specified in subds. 1. to 4.:

1. A record of the coating operations on which you used each compliance option and the time periods, beginning and ending dates and times, for each option you used.

2. For the compliant material option in s. NR 465.43 (2) (a), a record of the calculation of the organic HAP content for each coating, using Equation 2 of s. NR 465.46 (2).

3. For the emission rate without add−on controls option in s. NR 465.43 (2) (b), a record of the calculation of the total mass of organic HAP emissions for the coatings, thinners, other additives and cleaning materials used each month using Equations 1, 1A to 1C and 2 of s. NR 465.47 (2); and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to s. NR 465.47 (2) (e) 2.; the calculation of the total volume of coating solids used each month using Equation 2 of s. NR 465.47 (2); and the calculation of each 12−month organic HAP emission rate using Equation 3 of s. NR 465.47 (2).

4. For the emission rate with add−on controls option in s. NR 465.43 (2) (c), records of all the calculations specified in subd. 4. a. to e.

a. The calculation of the total mass of organic HAP emissions for the coatings, thinners, other additives and cleaning materials used each month using Equations 1 and 1A to 1C of s. NR 465.47 (2) and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to s. NR 465.47 (2) (e) 2.

b. The calculation of the total volume of coating solids used each month using Equation 2 of s. NR 465.47 (2).

c. The calculation of the mass of organic HAP emission reduction by emission capture systems and add−on control devices using Equations 1 and 1A to 1D of s. NR 465.48 (2) and Equations 2, 3 and 3A to 3C of s. NR 465.48 (2), as applicable.

d. The calculation of each month's organic HAP emission rate using Equation 4 of s. NR 465.48 (2).

e. The calculation of each 12−month organic HAP emission rate using Equation 5 of s. NR 465.48 (2).

(d) A record of the name and volume of each coating, thinner, other additive and cleaning material used during each compliance period. If you are using the compliant material option in s. NR 465.43 (2) (a) for all coatings at the source, you may maintain purchase records for each material used rather than a record of the volume used.

(e) A record of the mass fraction of organic HAP for each coating, thinner and other additive, and cleaning material used during each compliance period unless the material is tracked by weight.

(f) A record of the volume fraction of coating solids for each coating used during each compliance period.

(g) If you use either the emission rate without add−on controls option in s. NR 465.43 (2) (b) or the emission rate with add−on controls compliance option in s. NR 465.43 (2) (c), the density for each coating, thinner, other additive and cleaning material used during each compliance period.

(h) If you use an allowance in Equation 1 of s. NR 465.47 (2) for organic HAP contained in waste materials sent to or designated for shipment to a treatment, storage, and disposal facility (TSDF) according to s. NR 465.47 (2) (e) 2., you shall keep records of the information specified in subds. 1. to 3.

1. The name and address of each TSDF to which you sent waste materials for which you use an allowance in Equation 1 of s. NR 465.47 (2); a statement of which subparts under 40 CFR parts 262, 264, 265 and 266 apply to the facility; and the date of each shipment.

2. Identification of the coating operations producing waste materials included in each shipment and the month or months in which you used the allowance for these materials in Equation 1 of s. NR 465.47 (2).

3. The methodology used in accordance with s. NR 465.47 (2) (e) 2. to determine the total amount of waste materials sent to or the amount collected, stored and designated for transport to a TSDF each month; and the methodology to determine the mass of organic HAP contained in these waste materials. You shall include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring and supporting calculations and documentation, including the waste manifest for each shipment.

(j) You shall keep records of the date, time and duration of each deviation.

(k) If you use the emission rate with add−on controls option in s. NR 465.43 (2) (c), you shall keep the records specified in subds. 1. to 8.

1. For each deviation, a record of whether the deviation occurred during a period of startup, shutdown or malfunction.

2. The records in s. NR 460.05 (4) (c)3. to 5. related to startup, shutdown and malfunction.

3. The records required to show continuous compliance with each operating limit specified in Table 1 of this subchapter that applies to you.

4. For each capture system that is a PTE, the data and documentation you used to support a determination that the capture system meets the criteria in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for a PTE and has a capture efficiency of 100%, as specified in s. NR 465.48 (6) (a).

5. For each capture system that is not a PTE, the data and documentation you used to determine capture efficiency according to the requirements specified in s. NR 465.48 (5) and (6) (b) to (e), including the records specified in subd. 5. a. to c. that apply to you.

a. For a liquid−to−uncaptured gas protocol using a temporary total enclosure or building enclosure, records of the mass of total volatile hydrocarbon (TVH) as measured by Method 204A or 204F in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for each material used in the coating operation or operations, and the total TVH for all materials used during each capture efficiency test run, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run, as measured by Method 204D or 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for either a temporary total enclosure or a building enclosure.

b. For a gas−to−gas protocol using a temporary total enclosure or a building enclosure, records of the mass of TVH emissions captured by the emission capture system as measured by Method 204B or 204C in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), at the inlet to the add−on control device, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run as measured by Method 204D or 204E in 40 CFR part 51, Appendix M, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 in 40 CFR part 51, Appendix M for either a temporary total enclosure or a building enclosure.

c. For an alternative protocol, records needed to document a capture efficiency determination using an alternative method or protocol as specified in s. NR 465.48 (6) (e), if applicable.

6. The records specified in subd. 6. a. and b. for each add−on control device organic HAP destruction or removal efficiency determination as specified in s. NR 465.48 (7).

a. Records of each add−on control device performance test conducted according to s. NR 465.48 (5) and (7).

b. Records of the coating operation conditions during the add−on control device performance test showing that the performance test was conducted under representative operating conditions.

7. Records of the data and calculations you used to establish the emission capture and add−on control device operating limits as specified in s. NR 465.48 (8) and to document compliance with the operating limits as specified in Table 1 of this subchapter.

8. A record of the work practice plan required by s. NR 465.43 (4) and documentation that you are implementing the plan on a continuous basis.

(4) IN WHAT FORM AND FOR HOW LONG MUST I KEEP MY RECORDS? (a) Your records shall be in a form suitable and readily available for expeditious review, according to s. NR 460.09 (2) (a). Where appropriate, the records may be maintained as electronic spreadsheets or as a database.

(b) As specified in s. NR 460.09 (2) (a), you shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record.

(c) You shall keep each record on−site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report or record according to s. NR 460.09 (2) (a). You may keep the records off−site for the remaining 3 years.

History: CR 05−040: cr. Register February 2006 No. 602, eff. 3−1−06.

NR 465.46 Compliance requirements for the compliant material option. (1) BY WHAT DATE MUST I CONDUCT THE INITIAL COMPLIANCE DEMONSTRATION? You shall complete the initial compliance demonstration for the initial compliance period according to the requirements in sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.41 (4) and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through that month plus the next 12 months. The initial compliance demonstration includes the calculations according to sub. (2) and supporting documentation showing that during the initial compliance period, you used no coating with an organic HAP content that exceeded the applicable emission limit in s. NR 465.43 (1), and that you used no thinners or other additives, or cleaning materials that contained organic HAP as determined according to sub. (2) (a).

(2) HOW DO I DEMONSTRATE INITIAL COMPLIANCE WITH THE EMISSION LIMITS? You may use the compliant material option for any individual coating operation, for any group of coating operations in the affected source or for all the coating operations in the affected source. You shall use either the emission rate without add−on controls option in s. NR 465.43 (2) (b) or the emission rate with add−on controls option in s. NR 465.43 (2) (c) for any coating operation in the affected source for which you do not use the compliant material option. To demonstrate initial compliance using the compliant material option, the coating operation or group of coating operations may not use any coating with an organic HAP content that exceeds the applicable emission limits in s. NR 465.43 (1) and may not use any thinner or other additive, or cleaning material that contains organic HAP as determined according to pars. (a) to (e). Any coating operation for which you use the compliant material option is not required to meet the operating limits or work practice standards required in s. NR 465.43 (3) and (4), respectively. You shall conduct a separate initial compliance demonstration for each general use, high performance, magnet wire, rubber−to−metal and extreme performance fluoropolymer coating operation unless you are demonstrating compliance with a predominant activity or facility−specific emission limit as provided in s. NR 465.43 (1) (c). If you are demonstrating compliance with a predominant activity or facility−specific emission limit, you shall demonstrate that all coating operations included in the predominant activity determination or calculation of the facility−specific emission limit comply with that limit. You shall meet all the requirements of this subsection. You shall use the procedures in pars. (a) to (e) on each coating, thinner, other additive and cleaning material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. You do not need to redetermine the organic HAP content of coatings, thinners, other additives and cleaning materials that are reclaimed on−site, or reclaimed off−site if you have documentation showing that you received back the exact same materials that were sent off−site, and reused in the coating operation or operations for which you use the compliant material option, provided these materials in their condition as received were demonstrated to comply with the compliant material option.

(a) *Determine the mass fraction of organic HAP for each material used.* You shall determine the mass fraction of organic HAP for each coating, thinner, other additive and cleaning material

used during the compliance period by using one of the options in subds. 1. to 5.

1. 'Method 311.' You may use Method 311 in 40 CFR part 63, Appendix A, incorporated by reference in s. NR 484.04 (25), for determining the mass fraction of organic HAP. Use the procedures specified in subd. 1. a. and b. when performing a Method 311 test.

a. Count each organic HAP that is measured to be present at 0.1% by mass or more for Occupational Safety and Health Administration (OSHA)−defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0% by mass or more for other compounds. Express the mass fraction of each organic HAP you count as a value truncated to 4 places after the decimal point.

Note: For example, if toluene, which is not an OSHA carcinogen, is measured to be 0.5% of the material by mass, you do not have to count it.

b. Calculate the total mass fraction of organic HAP in the test material by adding up the individual organic HAP mass fractions and truncating the result to 3 places after the decimal point.

2. 'Method 24.' For coatings, you may use Method 24 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may use the alternative method contained in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r), rather than Method 24. You may use the volatile fraction that is emitted, as measured by the alternative method in 40 CFR part 63, Subpart PPPP, Appendix A, as a substitute for the mass fraction of organic HAP.

3. 'Alternative method.' You may use an alternative test method for determining the mass fraction of organic HAP once the administrator has approved it. You shall follow the procedure in s. NR 460.06 (5) to submit an alternative test method for approval.

4. 'Information from the supplier or manufacturer of the material.' You may rely on information other than that generated by the test methods specified in subds. 1. to 3., such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1% by mass or more for OSHA−defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0% by mass or more for other compounds. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may rely on manufacturer's data that expressly states the organic HAP or volatile matter mass fraction emitted. If there is a disagreement between manufacturer's information and results of a test conducted according to subds. 1. to 3., then the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct.

Note: Note: For example, concerning which HAPs to include, if toluene, which is not an OSHA carcinogen, is 0.5% of the material by mass, you do not have to count it.

5. 'Solvent blends.' Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain organic HAP which shall be counted toward the total organic HAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 2 or 3 of this subchapter. If you use the tables, you shall use the values in Table 2 for all solvent blends that match Table 2 entries according to the instructions for Table 2, and you may use Table 3 only if the solvent blends in the materials you use do not match any of the solvent blends in Table 2 and you know only whether the blend is aliphatic or aromatic. However, if the results of a test using Method 311 in 40 CFR part 63, Appendix A, incorporated by reference in s. NR 484.04 (25), indicate higher values than those listed on Table 2 or 3, the Method 311 results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct.

(b) *Determine the volume fraction of coating solids for each coating.* You shall determine the volume fraction of coating solids, in liters (gallons) of coating solids per liter (gallon) of coating, for each coating used during the compliance period by a test, by information provided by the supplier or the manufacturer of the material, or by calculation, as specified in subds. 1. to 4. If test results obtained according to subd. 1. do not agree with the information obtained under subd. 3. or 4., the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct.

1. 'ASTM D2697−86 (1998) or ASTM D6093−97 (2003).' You may use ASTM D2697−86 (1998) "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings", incorporated by reference in s. NR 484.10 (39e), or ASTM D6093−97 (2003) "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer", incorporated by reference in s. NR 484.10 (55m), to determine the volume fraction of coating solids for each coating. Divide the nonvolatile volume percent obtained with the methods by 100 to calculate volume fraction of coating solids.

2. 'Alternative method.' You may use an alternative test method for determining the solids content of each coating once the administrator has approved it. You shall follow the procedure in s. NR 460.06 (5) to submit an alternative test method for approval.

3. 'Information from the supplier or manufacturer of the material.' You may obtain the volume fraction of coating solids for each coating from the supplier or manufacturer.

4. 'Calculation of volume fraction of coating solids.' You may determine the volume fraction of coating solids using the following equation:

$$V_s = 1 - \frac{m_{volatiles}}{D_{avg}}$$

(Equation 1)

where:

V_s is the volume fraction of coating solids, liters (gallons) of coating solids per liter (gallon) of coating

$m_{volatiles}$ is the total volatile matter content of the coating, including HAP, volatile organic compounds, water and exempt compounds, determined according to Method 24 in 40 CFR part 60, Appendix A, grams (lb) of volatile matter per liter (gallon) of coating

D_{avg} is the average density of volatile matter in the coating, grams (lb) of volatile matter per liter (gallon) of volatile matter, determined from test results using ASTM D1475−98 (2003) "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products", incorporated by reference in s. NR 484.10 (22), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475−98 (2003) test results and other information sources, the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct.

(c) *Determine the density of each coating.* Determine the density of each coating used during the compliance period from test results using ASTM D1475−98 (2003) "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products", incorporated by reference in s. NR 484.10 (22), information from the supplier or manufacturer of the material, or specific gravity data for pure chemicals. If there is disagreement between ASTM D1475−98 (2003) test results and the supplier's or manufacturer's

information, the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct.

(d) *Determine the organic HAP content of each coating*. Calculate the organic HAP content of each coating used during the compliance period using the following equation:

$$H_c = \frac{(D_c)(W_c)}{V_s}$$

(Equation 2)

where:

H_c is the organic HAP content of the coating, kg (lb) of organic HAP emitted per liter (gallon) of coating solids used

D_c is the density of coating, kg (lb) of coating per liter (gallon) of coating, determined according to par. (c)

W_c is the mass fraction of organic HAP in the coating, kg (lb) of organic HAP per kg (lb) of coating, determined according to par. (a)

V_s is the volume fraction of coating solids, liter (gallon) of coating solids per liter (gallon) of coating, determined according to par. (b)

(e) *Compliance demonstration*. The calculated organic HAP content for each coating used during the initial compliance period shall be less than or equal to the applicable emission limit in s. NR 465.43 (1); and each thinner, other additive and cleaning material used during the initial compliance period may not contain any organic HAP, determined according to par. (a). You shall keep all records required by s. NR 465.45 (3) and (4). As part of the notification of compliance status required in s. NR 465.45 (1), you shall identify the coating operations for which you used the compliant material option and submit a statement that the coating operations were in compliance with the emission limits in s. NR 465.43 (1) during the initial compliance period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in s. NR 465.43 (1), and you used no thinners or other additives, or cleaning materials that contained organic HAP, determined according to the procedures in par. (a).

(3) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE EMISSION LIMITS? (a) For each compliance period, to demonstrate continuous compliance, you may not use any coating for which the organic HAP content, determined using Equation 2 of sub. (2) (d), exceeds the applicable emission limit in s. NR 465.43 (1), and you may not use any thinner or other additive, or cleaning material that contains organic HAP, determined according to sub. (2) (a). A compliance period consists of 12 months. Each month, after the end of the initial compliance period described in sub. (1), is the end of a compliance period consisting of that month and the preceding 11 months. If you are complying with a facility−specific emission limit under s. NR 465.43 (1) (c) 2., you shall also perform the calculation using Equation 1 of s. NR 465.43 (1) (c) 2. on a monthly basis using the data from the previous 12 months of operation.

(b) If you choose to comply with the emission limits in s. NR 465.43 (1) by using the compliant material option specified in this section, the use of any coating, thinner or other additive, or cleaning material that does not meet the criteria specified in par. (a) is a deviation from the emission limits in s. NR 465.43 (1) that shall be reported as specified in s. NR 465.45 (1) (c) 6. and (2) (a) 5.

(c) As part of each semiannual compliance report required by s. NR 465.45 (2), you shall identify the coating operations for which you used the compliant material option. If there were no deviations from the applicable emission limit in s. NR 465.43 (1), submit a statement that the coating operations were in compliance with the emission limits during the reporting period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in s. NR 465.43 (1), and you used no thinner, other additive or cleaning material that contained organic HAP, determined according to sub. (2) (a).

(d) You shall maintain records as specified in s. NR 465.45 (3) and (4).

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NR 465.47 Compliance requirements for the emission rate without add−on controls option. (1) BY WHAT DATE MUST I CONDUCT THE INITIAL COMPLIANCE DEMONSTRATION? You shall complete the initial compliance demonstration for the initial compliance period according to the requirements of sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.41 (4) and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You shall determine the mass of organic HAP emissions and volume of coating solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the calculations according to sub. (2) and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in s. NR 465.43 (1).

(2) HOW DO I DEMONSTRATE INITIAL COMPLIANCE WITH THE EMISSION LIMITS? You may use the emission rate without add−on controls option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You shall use either the compliant material option in s. NR 465.43 (2) (a) or the emission rate with add−on controls option in s. NR 465.43 (2) (c) for any coating operation in the affected source for which you do not use the emission rate without add−on controls option. To demonstrate initial compliance using the emission rate without add−on controls option, the coating operation or group of coating operations shall meet the applicable emission limit in s. NR 465.43 (1), but is not required to meet the operating limits or work practice standards in s. NR 465.43 (3) and (4). You shall conduct a separate initial compliance demonstration for each general use, magnet wire, rubber−to−metal and extreme performance fluoropolymer coating operation unless you are demonstrating compliance with a predominant activity or facility−specific emission limit as provided in s. NR 465.43 (1) (c). If you are demonstrating compliance with a predominant activity or facility−specific emission limit, you shall demonstrate that all coating operations included in the predominant activity determination or calculation of the facility−specific emission limit comply with that limit. You shall meet all the requirements of this subsection. When calculating the organic HAP emission rate according to pars. (a) to (h), do not include any coatings, thinners, other additives or cleaning materials used on coating operations for which you use the compliant material option specified in s. NR 465.43 (2) (a) or the emission rate with add−on controls option specified in s. NR 465.43 (2) (c) You do not need to redetermine the mass of organic HAP in coatings, thinners or other additives, or cleaning materials that have been reclaimed on−site, or reclaimed off−site if you have documentation showing that you received back the exact same materials that were sent off−site, and reused in the coating operation or operations for which you use the emission rate without add−on controls option. If you use coatings, thinners or other additives, or cleaning materials that have been reclaimed on−site, the amount of each used in a month may be reduced by the amount of each that is reclaimed.

(a) *Determine the mass fraction of organic HAP for each material*. Determine the mass fraction of organic HAP for each coating, thinner, other additive and cleaning material used during each month according to the requirements in s. NR 465.46 (2) (a).

(b) *Determine the volume fraction of coating solids*. Determine the volume fraction of coating solids, in liters (gallons) of

coating solids per liter (gallon) of coating, for each coating used during each month according to the requirements in s. NR 465.46 (2) (b).

(c) *Determine the density of each material.* Determine the density of each liquid coating, thinner or other additive, and cleaning material used during each month from test results using ASTM D1475−98 (2003), "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products", incorporated by reference in s. NR 484.10 (22), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If you are including powder coatings in the compliance determination, determine the density of powder coatings, using ASTM D5965−02 "Standard Test Methods for Specific Gravity of Coating Powders", incorporated by reference in s. NR 484.10 (55i), or information from the supplier. If there is disagreement between ASTM Method D1475−98 (2003) or ASTM Method D5965−02 test results and other information sources, the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine material density. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, 1C and 2 of this subsection.

(d) *Determine the volume of each material used.* Determine the volume in liters (gallons) of each coating, thinner, other additive, and cleaning material used during each month by measurement or usage records. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine the volume of each material used. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B and 1C of this subsection.

(e) *Calculate the mass of organic HAP emissions.* 1. The mass of organic HAP emissions is the combined mass of organic HAP contained in all coatings, thinners, other additives and cleaning materials used during each month minus the organic HAP in certain waste materials. Calculate the mass of organic HAP emissions using the following equations and the procedures in subd. 2. if applicable:

$$H_e = A + B + C - R_w$$

(Equation 1)

where:

H_e is the total mass of organic HAP emissions during the month, kg (lb)

A is the total mass of organic HAP in the coatings used during the month, kg (lb), as calculated in Equation 1A of this subsection

B is the total mass of organic HAP in the thinners and other additives used during the month, kg (lb), as calculated in Equation 1B of this subsection

C is the total mass of organic HAP in the cleaning materials used during the month, kg (lb), as calculated in Equation 1C of this subsection

R_W is the total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, kg (lb), determined according to subd. 2. You may assign a value of zero to R_W if you do not wish to use this allowance.

$$A = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i})$$

(Equation 1A)

where:

A is the total mass of organic HAP in the coatings used during the month, kg (lb)

$Vol_{c,i}$ is the total volume of coating i, used during the month, liters (gallons)

$D_{c,i}$ is the density of coating i, kg (lb) of coating per liter (gallon) of coating

$W_{c,i}$ is the mass fraction of organic HAP in coating i, kg (lb) of organic HAP per kg (lb) of coating. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

m is the number of different coatings used during the month

$$B = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j})$$

(Equation 1B)

where:

B is the total mass of organic HAP in the thinners and other additives used during the month, kg (lb)

$Vol_{t,j}$ is the total volume of thinner or other additive j, used during the month, liters (gallons)

$D_{t,j}$ is the density of thinner or other additive j, kg per liter (lb per gallon)

$W_{t,j}$ is the mass fraction of organic HAP in thinner or other additive j, kg (lb) of organic HAP per kg (lb) of thinner or other additive. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

n is the number of different thinners and other additives used during the month

$$C = \sum_{k=1}^{p} (Vol_{s,k})(D_{s,k})(W_{s,k})$$

(Equation 1C)

where:

C is the total mass of organic HAP in the cleaning materials used during the month, kg (lb)

$Vol_{s,k}$ is the total volume of cleaning material k, used during the month, liters (gallons)

$D_{s,k}$ is the density of cleaning material k, kg per liter (lb per gallon)

$W_{s,k}$ is the mass fraction of organic HAP in cleaning material k, kg (lb) of organic HAP per kg (lb) of material

p is the number of different cleaning materials used during the month

2. If you choose to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 1 of this subsection, then you shall determine the mass according to subd. 2. a. to d.

a. Include only waste materials in the determination that are generated by coating operations in the affected source for which you use Equation 1 of this subsection and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265 or 266. The TSDF may be either off−site or on−site. Do not include organic HAP contained in wastewater.

b. Determine either the amount of the waste materials sent to a TSDF during the month or the amount collected and stored during the month and designated for future transport to a TSDF. Do not include in your determination any waste materials sent to a TSDF during a month if you have already included them in the amount collected and stored during that month or a previous month.

c. Determine the total mass of organic HAP contained in the waste materials specified in subd. 2. b.

d. You shall document the methodology you use to determine the amount of waste materials and the total mass of organic HAP they contain, as required in s. NR 465.45 (3) (h). If waste manifests include this information, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them.

(f) *Calculate the total volume of coating solids used*. Determine the total volume of coating solids used, liters (gallons), which is the combined volume of coating solids for all the coatings used during each month, using the following equation:

$$V_{st} = \sum_{i=1}^{m} (Vol_{c,i})(V_{s,i})$$

(Equation 2)

where:

V_{st} is the total volume of coating solids used during the month, liters (gallons)

$Vol_{c,i}$ is the total volume of coating i, used during the month, liters (gallons)

$V_{s,i}$ is the volume fraction of coating solids for coating i, liters (gallons) of solids per liter (gallon) of coating, determined according to s. NR 465.46 (2) (b)

m is the number of coatings used during the month

(g) *Calculate the organic HAP emission rate*. Calculate the organic HAP emission rate for the compliance period using Equation 3:

$$H_{yr} = \frac{\sum_{y=1}^{n} H_e}{\sum_{y=1}^{n} V_{st}}$$

(Equation 3)

where:

H_{yr} is the average organic HAP emission rate for the compliance period, kg (lb) of organic HAP emitted per liter (gallon) of coating solids used

H_e is the total mass of organic HAP emissions from all materials used during month y, kg (lb), as calculated by Equation 1 of this subsection

V_{st} is the total volume of coating solids used during month y, liters (gallons), as calculated by Equation 2 of this subsection

y is the number of the month in the compliance period

n is the number of full or partial months in the compliance period. For the initial compliance period, n equals 12 if the compliance date falls on the first day of a month; otherwise n equals 13. For all following compliance periods, n equals 12.

(h) *Compliance demonstration*. The organic HAP emission rate for the initial compliance period, calculated using Equation 3 of this subsection, shall be less than or equal to the applicable emission limit for each sub−category in s. NR 465.43 (1) or the predominant activity or facility−specific emission limit allowed in s. NR 465.43 (1) (c). You shall keep all records as required by s. NR 465.45 (3) and (4). As part of the notification of compliance status required by s. NR 465.45 (1), you shall identify the coating operations for which you used the emission rate without add−on controls option and submit a statement that the coating operations were in compliance with the emission limits in s. NR 465.43 (1) during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in s. NR 465.43 (1), determined according to the procedures in this subsection.

(3) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE EMISSION LIMITS? (a) To demonstrate continuous compliance, the organic HAP emission rate for each compliance period, determined according to sub. (2) (a) to (g), shall be less than or equal to the applicable emission limit in s. NR 465.43 (1). A compliance period consists of 12 months. Each month after the end of the initial compliance period described in sub. (1) is the end of a compliance period consisting of that month and the preceding 11 months. You shall perform the calculations in sub. (2) (a) to (g) on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility−specific emission limit under s. NR 465.43 (1) (c), you shall also perform the calculation using Equation 1 of s. NR 465.43 (1) (c) 2. on a monthly basis using the data from the previous 12 months of operation.

(b) If the organic HAP emission rate for any 12−month compliance period exceeds the applicable emission limit in s. NR 465.43 (1), this is a deviation from the emission limit for that compliance period and shall be reported as specified in s. NR 465.45 (1) (c) 6. and (2) (a) 6.

(c) As part of each semiannual compliance report required by s. NR 465.45 (2), you shall identify the coating operations for which you used the emission rate without add−on controls option. If there were no deviations from the emission limits in s. NR 465.43 (1), you shall submit a statement that the coating operations were in compliance with the emission limits during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in s. NR 465.43 (1), determined according to sub. (2) (a) to (g).

(d) You shall maintain records as specified in s. NR 465.45 (3) and (4).

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NR 465.48 Compliance requirements for the emission rate with add−on controls option. (1) BY WHAT DATE MUST I CONDUCT PERFORMANCE TESTS AND OTHER INITIAL COMPLIANCE DEMONSTRATIONS? (a) For a new or reconstructed affected source, you shall meet the requirements of subds. 1. to 4.

1. All emission capture systems, add−on control devices and CPMS shall be installed and operating no later than the applicable compliance date specified in s. NR 465.41 (4). Except for solvent recovery systems for which you conduct liquid−liquid material balances according to sub. (2) (j), you shall conduct a performance test of each capture system and add−on control device according to subs. (5), (6) and (7) and establish the operating limits required by s. NR 465.43 (3) no later than 180 days after the applicable compliance date specified in s. NR 465.41 (4). For a solvent recovery system for which you conduct liquid−liquid material balances according to sub. (2) (j), you shall initiate the first material balance no later than the applicable compliance date specified in s. NR 465.41 (4). For magnet wire coating operations you may, with approval, conduct a performance test of one representative magnet wire coating machine for each group of identical or very similar magnet wire coating machines.

2. You shall develop and begin implementing the work practice plan required by s. NR 465.43 (4) no later than the compliance date specified in s. NR 465.41 (4).

3. You shall complete the initial compliance demonstration for the initial compliance period according to the requirements of sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.41 (4) and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You shall determine the mass of organic HAP emissions and volume of coatings solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the results of emission capture system and

add−on control device performance tests conducted according to subs. (5), (6) and (7); results of liquid−liquid material balances conducted according to sub. (2) (j); calculations according to sub. (2) and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in s. NR 465.43 (1); the operating limits established during the performance tests and the results of the continuous parameter monitoring required by sub. (9); and documentation of whether you developed and implemented the work practice plan required by s. NR 465.43 (4).

4. You do not need to comply with the operating limits for the emission capture system and add−on control device required by s. NR 465.43 (3) until after you have completed the performance tests specified in subd. 1. Instead, you shall maintain a log detailing the operation and maintenance of the emission capture system, add−on control device and continuous parameter monitors during the period between the compliance date and the performance test. You shall begin complying with the operating limits for your affected source on the date you complete the performance tests specified in subd. 1. For magnet wire coating operations, you shall begin complying with the operating limits for all identical or very similar magnet wire coating machines on the date you complete the performance test of a representative magnet wire coating machine. The requirements in this subdivision do not apply to solvent recovery systems for which you conduct liquid−liquid material balances according to the requirements in sub. (2) (j).

(b) For an existing affected source, you shall meet the requirements of subds. 1. to 3.

1. All emission capture systems, add−on control devices and CPMS shall be installed and operating no later than the applicable compliance date specified in s. NR 465.41 (4). Except for magnet wire coating operations and solvent recovery systems for which you conduct liquid−liquid material balances according to sub. (2) (j), you shall conduct a performance test of each capture system and add−on control device according to the procedures in subs. (5), (6) and (7) and establish the operating limits required by s. NR 465.43 (3) no later than the compliance date specified in s. NR 465.41 (4). For magnet wire coating operations, you may, with approval, conduct a performance test of a single magnet wire coating machine that represents identical or very similar magnet wire coating machines. For a solvent recovery system for which you conduct liquid−liquid material balances according to sub. (2) (j), you shall initiate the first material balance no later than the compliance date specified in s. NR 465.41 (4).

2. You shall develop and begin implementing the work practice plan required by s. NR 465.43 (4) no later than the compliance date specified in s. NR 465.41 (4).

3. You shall complete the initial compliance demonstration for the initial compliance period according to the requirements of sub. (2). The initial compliance period begins on the applicable compliance date specified in s. NR 465.41 (4) and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You shall determine the mass of organic HAP emissions and volume of coatings solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the results of emission capture system and add−on control device performance tests conducted according to subs. (5), (6) and (7); results of liquid−liquid material balances conducted according to sub. (2) (j); calculations according to sub. (2); and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in s. NR 465.43 (1); the operating limits established during the performance tests and the results of the continuous parameter monitoring required by sub. (9); and documentation of whether you developed and implemented the work practice plan required by s. NR 465.43 (4).

(c) You are not required to conduct an initial performance test to determine capture efficiency or destruction efficiency of a capture system or control device if you receive approval to use the results of a performance test that has been previously conducted on that capture system or control device. Any previous tests shall meet the conditions described in subds. 1. to 3.

1. The previous test shall have been conducted using the methods and conditions specified in this subchapter.

2. Either no process or equipment changes have been made since the previous test was performed, or the owner or operator shall be able to demonstrate that the results of the performance test reliably demonstrate compliance despite process or equipment changes.

3. Either the required operating parameters were established in the previous test or sufficient data were collected in the previous test to establish the required operating parameters.

(2) HOW DO I DEMONSTRATE INITIAL COMPLIANCE? (a) *General.* You may use the emission rate with add−on controls option for any coating operation, for any group of coating operations in the affected source, or for all of the coating operations in the affected source. You may include both controlled and uncontrolled coating operations in a group for which you use this option. You shall use either the compliant material option in s. NR 465.43 (2) (a) or the emission rate without add−on controls option in s. NR 465.43 (2) (b) for any coating operation in the affected source for which you do not use the emission rate with add−on controls option. To demonstrate initial compliance, the coating operations for which you use the emission rate with add−on controls option shall meet the applicable emission limits in s. NR 465.43 (1), (3) and (4). You shall conduct a separate initial compliance demonstration for each general use, magnet wire, rubber−to−metal and extreme performance fluoropolymer coating operation, unless you are demonstrating compliance with a predominant activity or facility−specific emission limit as provided in s. NR 465.43 (1) (c). If you are demonstrating compliance with a predominant activity or facility−specific emission limit, you shall demonstrate that all coating operations included in the predominant activity determination or calculation of the facility−specific emission limit comply with that limit. You shall meet all the requirements of this subsection. When calculating the organic HAP emission rate according to pars. (b) to (n), do not include any coatings, thinners, other additives or cleaning materials used on coating operations for which you use the compliant material option in s. NR 465.43 (2) (a) or the emission rate without add−on controls option in s. NR 465.43 (2) (b). You do not need to re−determine the mass of organic HAP in coatings, thinners, other additives or cleaning materials that have been reclaimed onsite, or reclaimed off−site if you have documentation showing that you received back the exact same materials that were sent off−site, and reused in the coatings operations for which you use the emission rate with add−on controls option. If you use coatings, thinners, other additives or cleaning materials that have been reclaimed on−site, the amount of each used in a month may be reduced by the amount of each that is reclaimed. That is, the amount used may be calculated as the amount consumed to account for materials that are reclaimed.

(b) *Compliance with operating limits*. Except as provided in sub. (1) (a) 4., and except for solvent recovery systems for which you conduct liquid−liquid material balances according to the requirements of par. (j), you shall establish and demonstrate continuous compliance during the initial compliance period with the operating limits required by s. NR 465.43 (3), using the procedures specified in subs. (8) and (9).

(c) *Compliance with work practice requirements*. You shall develop, implement and document your implementation of the work practice plan required by s. NR 465.43 (4) during the initial compliance period, as specified in s. NR 465.45 (3).

(d) *Compliance with emission limits.* You shall follow the procedures in pars. (e) to (n) to demonstrate compliance with the

applicable emission limit in s. NR 465.43 (1) for each affected source in each sub−category.

(e) *Determine the mass fraction of organic HAP, density, volume used and volume fraction of coating solids.* Follow the procedures in s. NR 465.47 (2) (a) to (d) to determine the mass fraction of organic HAP, density and volume of each coating, thinner, other additive and cleaning material used during each month; and the volume fraction of coating solids for each coating used during each month.

(f) *Calculate the total mass of organic HAP emissions before add−on controls*. Using Equation 1 of s. NR 465.47 (2), calculate the total mass of organic HAP emissions before add−on controls from all coatings, thinners, other additives and cleaning materials used during each month in the coating operation or group of coating operations for which you use the emission rate with add−on controls option.

(g) *Calculate the organic HAP emission reduction for each controlled coating operation*. Determine the mass of organic HAP emissions reduced for each controlled coating operation during each month. The emission reduction determination quantifies the total organic HAP emissions that pass through the emission capture system and are destroyed or removed by the add−on control device. Use the procedures in par. (h) to calculate the mass of organic HAP emission reduction for each controlled coating operation using an emission capture system and add−on control device other than a solvent recovery system for which you conduct liquid−liquid material balances. For each controlled coating operation using a solvent recovery system for which you conduct a liquid−liquid material balance, use the procedures in par. (j) to calculate the organic HAP emission reduction.

(h) *Calculate the organic HAP emission reduction for each controlled coating operation not using liquid−liquid material balance*. Use the equations in this paragraph to calculate the organic HAP emission reduction for each controlled coating operation using an emission capture system and add−on control device other than a solvent recovery system for which you conduct liquid−liquid material balances. You shall assume zero efficiency for the emission capture system and add−on control device for any period of time a deviation specified in sub. (4) (c) or (d) occurs in the controlled coating operation, including a deviation during a period of startup, shutdown or malfunction, unless you have other data indicating the actual efficiency of the emission capture system and add−on control device and the use of these data is approved by the department.

Note: The calculation applies the emission capture system efficiency and add−on control device efficiency to the mass of organic HAP contained in the coatings, thinners, other additives and cleaning materials that are used in the coating operation served by the emission capture system and add−on control device during each month. Equation 1 treats the materials used during a deviation as if they were used on an uncontrolled coating operation for the time period of the deviation.

$$H_C = (A_C + B_C + C_C - R_W - H_{UNC})\left(\frac{CE}{100} \times \frac{DRE}{100}\right)$$

(Equation 1)

where:

H_C is the mass of organic HAP emission reduction for the controlled coating operation during the month, kg (lb)

A_C is the total mass of organic HAP in the coatings used in the controlled coating operation during the month, kg (lb), as calculated in Equation 1A of this subsection

B_C is the total mass of organic HAP in the thinners and other additives used in the controlled coating operation during the month, kg (lb), as calculated in Equation 1B of this subsection

C_C is the total mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg (lb), as calculated in Equation 1C of this subsection

R_W is the total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the compliance period, kg (lb), determined according to s. NR 465.47 (2) (e) 2. You may assign a value of zero to R_W if you do not wish to use this allowance.

H_{UNC} is the total mass of organic HAP in the coatings, thinners and other additives, and cleaning materials used during all deviations specified in sub. (4) (c) and (d) that occurred during the month in the controlled coating operation, kg (lb), as calculated in Equation 1D of this subsection

CE is the capture efficiency of the emission capture system vented to the add−on control device, percent. Use the test methods and procedures specified in subs. (5) and (6) to measure and record capture efficiency.

DRE is the organic HAP destruction or removal efficiency of the add−on control device, percent. Use the test methods and procedures in subs. (5) and (7) to measure and record the organic HAP destruction or removal efficiency.

$$A_C = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i})$$

(Equation 1A)

where:

A_C is the total mass of organic HAP in the coatings used in the controlled coating operation during the month, kg (lb)

$Vol_{c,i}$ is the total volume of coating i used during the month, liters (gallons)

$D_{c,i}$ is the density of coating i, kg per liter (lb per gallon)

$W_{c,i}$ is the mass fraction of organic HAP in coating i, kg per kg (lb per lb). For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in to 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

m is the number of different coatings used

$$B_C = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j})$$

(Equation 1B)

where:

B_C is the total mass of organic HAP in the thinners and other additives used in the controlled coating operation during the month, kg (lb)

$Vol_{t,j}$ is the total volume of thinner or other additive j used during the month, liters (gallons)

$D_{t,j}$ is the density of thinner or other additive j, kg per liter (lb per gallon)

$W_{t,j}$ is the mass fraction of organic HAP in thinner or other additive, j, kg per kg (lb per lb). For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

n is the number of different thinners and other additives used

$$C_C = \sum_{k=1}^{p} (Vol_{s,k})(D_{s,k})(W_{s,k})$$

(Equation 1C)

where:

C_C is the total mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg (lb)

$Vol_{s,k}$ = Total volume of cleaning material, k, used during the month, liters (gallons)

$D_{s,k}$ is the density of cleaning material, k, kg per liter (lb per gallon)

$W_{s,k}$ is the mass fraction of organic HAP in cleaning material, k, kg per kg (lb per lb)

p is the number of different cleaning materials used

$$H_{UNC} = \sum_{h=1}^{q} (Vol_h)(D_h)(W_h)$$

(Equation 1D)

where:

H_{UNC} is the total mass of organic HAP in the coatings, thinners and other additives, and cleaning materials used during all deviations specified in sub. (4)(c) and (d) that occurred during the month in the controlled coating operation, kg (lb)

Vol_h is the total volume of coating, thinner or other additive, or cleaning material, h, used in the controlled coating operation during deviations, liters (gallons)

D_h is the density of coating, thinner or other additive, or cleaning material, h, kg per liter (lb per gallon)

W_h is the mass fraction of organic HAP in coating, thinner, other additive or cleaning material, h, kg (lb) of organic HAP per kg (lb) of coating. For reactive adhesives , use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

q is the number of different coatings, thinners and other additives, and cleaning materials used

(j) *Calculate the organic HAP emission reduction for each controlled coating operation using liquid−liquid material balances*. For each controlled coating operation using a solvent recovery system for which you conduct liquid−liquid material balances, calculate the organic HAP emission reduction by applying the volatile organic matter collection and recovery efficiency to the mass of organic HAP contained in the coatings, thinners and other additives, and cleaning materials that are used in the coating operation or operations controlled by the solvent recovery system during each month. Perform a liquid−liquid material balance for each month as specified in subds. 1. to 6. Calculate the mass of organic HAP emission reduction by the solvent recovery system as specified in subd. 7.

1. For each solvent recovery system, install, calibrate, maintain and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system each month. The device shall be initially certified by the manufacturer to be accurate to within plus or minus 2.0% of the mass of volatile organic matter recovered.

2. For each solvent recovery system, determine the mass of volatile organic matter recovered for the month, based on measurement with the device required in subd. 1.

3. Determine the mass fraction of volatile organic matter for each coating, thinner, other additive and cleaning material used in the coating operation or operations controlled by the solvent recovery system during the month, kg (lb) of volatile organic matter per kg (lb) of coating. You may determine the volatile organic matter mass fraction using Method 24 of 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), or an EPA approved alternative method, or you may use information provided by the manufacturer or supplier of the coating. In the event of any inconsistency between information provided by the manufacturer or supplier and the results of Method 24 or an approved alternative method, the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the department that the formulation data are correct.

4. Determine the density of each coating, thinner, other additive and cleaning material used in the coating operation or operations controlled by the solvent recovery system during the month, kg per liter (lb per gallon), according to s. NR 465.47 (2) (c).

5. Measure the volume of each coating, thinner, other additive and cleaning material used in the coating operation or operations controlled by the solvent recovery system during the month, liters (gallons).

6. Each month, calculate the solvent recovery system's volatile organic matter collection and recovery efficiency, using the following equation:

$$R_V = \frac{100M_{VR}}{\sum_{i=1}^{m} Vol_i D_i WV_{c,i} + \sum_{j=1}^{n} Vol_j D_j WV_{t,j} + \sum_{k=1}^{p} Vol_k D_k WV_{s,k}}$$

(Equation 2)

where:

R_V is the volatile organic matter collection and recovery efficiency of the solvent recovery system during the month, percent

M_{VR} is the mass of volatile organic matter recovered by the solvent recovery system during the month, kg (lb)

Vol_i is the volume of coating, i, used in the coating operation controlled by the solvent recovery system during the month, liters (gallons)

D_i is the density of coating, i, kg per liter (lb per gallon)

$WV_{c,i}$ is the mass fraction of volatile organic matter for coating i, kg (lb) of volatile organic matter per kg (lb) of coating. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

Vol_j is the volume of thinner or other additive, j, used in the coating operation controlled by the solvent recovery system during the month, liters (gallons)

D_j is the density of thinner or other additive, j, kg per liter (lb per gallon)

$WV_{t,j}$ is the mass fraction of volatile organic matter for thinner or other additive, j, kg (lb) of volatile organic matter per kg (lb) of thinner or other additive. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

Vol_k is the volume of cleaning material, k, used in the coating operation controlled by the solvent recovery system during the month, liters (gallons)

D_k is the density of cleaning material, k, kg per liter (lb per gallon)

$WV_{s,k}$ is the mass fraction of volatile organic matter for cleaning material, k, kg (lb) of volatile organic matter per kg (lb) of cleaning material

m is the number of different coatings used in the coating operation controlled by the solvent recovery system during the month

n is the number of different thinners and other additives used in the coating operation controlled by the solvent recovery system during the month

p is the number of different cleaning materials used in the coating operation controlled by the solvent recovery system during the month

7. Calculate the mass of organic HAP emission reduction for the coating operations controlled by the solvent recovery system during the month, using the following equations:

$$H_{CSR} = (A_{CSR} + B_{CSR} + C_{CSR})\left(\frac{R_V}{100}\right)$$

(Equation 3)

where:

H_{CSR} is the mass of organic HAP emission reduction for the coating operation or operations controlled by the solvent recovery system using a liquid−liquid material balance during the month, kg (lb)

A_{CSR} is the total mass of organic HAP in the coatings used in the coating operation or operations controlled by the solvent recovery system, kg (lb), calculated using Equation 3A of this subsection

B_{CSR} is the total mass of organic HAP in the thinners and other additives used in the coating operation or operations controlled by the solvent recovery system, kg (lb), calculated using Equation 3B of this subsection

C_{CSR} is the total mass of organic HAP in the cleaning materials used in the coating operation or operations controlled by the solvent recovery system, kg (lb), calculated using Equation 3C of this subsection

R_V is the volatile organic matter collection and recovery efficiency of the solvent recovery system, percent, from Equation 2 of this subsection

$$A_{CSR} = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i})$$

(Equation 3A)

where:

A_{CSR} is the total mass of organic HAP in the coatings used in the coating operation or operations controlled by the solvent recovery system during the month, kg (lb)

$Vol_{c,i}$ is the total volume of coating, i, used during the month in the coating operation or operations controlled by the solvent recovery system, liters (gallons)

$D_{c,i}$ is the density of coating, i, kg per liter (lb per gallon)

$W_{c,i}$ is the mass fraction of organic HAP in coating, i, kg (lb) of organic HAP per kg (lb) of coating. For reactive adhesives, use the mass fraction of organic HAP emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A, incorporated by reference in s. NR 484.04 (24r).

m is the number of different coatings used

$$B_{CSR} = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j})$$

(Equation 3B)

where:

B_{CSR} is the total mass of organic HAP in the thinners and other additives used in the coating operation or operations controlled by the solvent recovery system during the month, kg (lb)

$Vol_{t,j}$ is the total volume of thinner or other additive, j, used during the month in the coating operation or operations controlled by the solvent recovery system, liters (gallons)

$D_{t,j}$ is the density of thinner or other additive, j, kg per liter (lb per gallon)

$W_{t,j}$ is the mass fraction of organic HAP in thinner or other additive, j, kg (lb) of organic HAP per kg (lb) of thinner or other additive. For reactive adhesives, use the mass fraction of organic HAP that is emitted as determined using the method in 40 CFR part 63, Subpart PPPP, Appendix A incorporated by reference in s. NR 484.04 (24r).

n is the number of different thinners and other additives used

$$C_{CSR} = \sum_{k=1}^{p} (Vol_{s,k})(D_{s,k})(W_{s,k})$$

(Equation 3C)

where:

C_{CSR} is the total mass of organic HAP in the cleaning materials used in the coating operation or operations controlled by the solvent recovery system during the month, kg (lb)

$Vol_{s,k}$ is the total volume of cleaning material, k, used during the month in the coating operation or operations controlled by the solvent recovery system, liters (gallons)

$D_{s,k}$ is the density of cleaning material, k, kg per liter (lb per gallon)

$W_{s,k}$ is the mass fraction of organic HAP in cleaning material, k, kg (lb) of organic HAP per kg (lb) of cleaning material

p is the number of different cleaning materials used

(k) *Calculate the total volume of coating solids used*. Determine the total volume of coating solids used, liters (gallons), which is the combined volume of coating solids for all the coatings used during each month in the coating operation or group of coating operations for which you use the emission rate with add−on controls option, using Equation 2 of s. NR 465.47 (2).

(L) *Calculate the mass of organic HAP emissions for each month*. Determine the mass of organic HAP emissions during each month, using Equation 4:

$$H_{HAP} = H_e - \sum_{i=1}^{q} (H_{c,i}) - \sum_{j=1}^{r} (H_{CSR,j})$$

(Equation 4)

where:

H_{HAP} is the total mass of organic HAP emissions for the month, kg (lb)

H_e is the total mass of organic HAP emissions before add−on controls from all the coatings, thinners, other additives and cleaning materials used during the month, kg (lb), determined according to par. (f)

$H_{c,i}$ is the total mass of organic HAP emission reduction for controlled coating operation, i, not using a liquid−liquid material balance, during the month, kg (lb), from Equation 1 of this subsection

$H_{CSR,j}$ is the total mass of organic HAP emission reduction for coating operation, j, controlled by a solvent recovery system using a liquid−liquid material balance, during the month, kg (lb), from Equation 3 of this subsection

q is the number of controlled coating operations not controlled by a solvent recovery system using a liquid−liquid material balance

r is the number of coating operations controlled by a solvent recovery system using a liquid−liquid material balance

(m) *Calculate the organic HAP emission rate for the compliance period*. Determine the organic HAP emission rate for the compliance period using Equation 5:

$$H_{annual} = \frac{\sum_{y=1}^{n} H_{HAP,y}}{\sum_{y=1}^{n} V_{st,y}}$$

(Equation 5)

where:

H_{annual} is the organic HAP emission rate for the compliance period, kg (lb) of organic HAP emitted per liter (gallon) of coating solids used

$H_{HAP,y}$ is the organic HAP emissions for month, y, kg (lb), determined according to Equation 4 of this subsection

$V_{st,y}$ is the total volume of coating solids used during month, y, liters (gallons), from Equation 2 of s. NR 465.47 (2)

y is the number of the month in the compliance period

n is the number of full or partial months in the compliance period. For the initial compliance period, n equals 12 if the compliance date falls on the first day of a month; otherwise n equals 13. For all following compliance periods, n equals 12.

(n) *Compliance demonstration*. The organic HAP emission rate for the initial compliance period, calculated using Equation 5 of this subsection, shall be less than or equal to the applicable emission limit for each sub−category in s. NR 465.43 (1) or the predominant activity or facility−specific emission limit allowed in s. NR 465.43 (1) (c). You shall keep all records as required by s. NR 465.45 (3) and (4). As part of the notification of compliance status required by s. NR 465.45 (1), you shall identify the coating operations for which you used the emission rate with add−on controls option as specified in this section and submit a statement that the coating operations were in compliance with the emission limits in s. NR 465.43 (1) during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in s. NR 465.43 (1), and you achieved the operating limits required by s. NR 465.43 (3) and the work practice standards required by s. NR 465.43 (4).

(4) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE EMISSION LIMITS? (a) To demonstrate continuous compliance with the applicable emission limit in s. NR 465.43 (1), the organic HAP emission rate for each compliance period, determined according to the procedures in sub. (2), shall be equal to or less than the applicable emission limit in s. NR 465.43 (1). A compliance period consists of 12 months. Each month after the end of the initial compliance period described in sub. (1) is the end of a compliance period consisting of that month and the preceding 11 months. You shall perform the calculations in sub. (2) on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility−specific emission limit under s. NR 465.43 (1) (c) 2., you shall also perform the calculation using Equation 1 of s. NR 465.43 (1) (c) 2. on a monthly basis using the data from the previous 12 months of operation.

(b) If the organic HAP emission rate for any 12−month compliance period exceeded the applicable emission limit in s. NR 465.43 (1), this is a deviation from the emission limit for that compliance period that shall be reported as specified in s. NR 465.45 (1) (c) 6. and (2) (a) 7.

(c) You shall demonstrate continuous compliance with each operating limit required by s. NR 465.43 (3) that applies to you, as specified in Table 1 of this subchapter, when the coating line is in operation. If an operating parameter is out of the allowed range specified in Table 1, you shall do both of the following:

1. Report as a deviation from the operating limit as specified in s. NR 465.45 (1) (c) 6. and (2) (a) 7.

2. Assume that the emission capture system and add−on control device were achieving zero efficiency during the time period of the deviation, unless you have other data indicating the actual efficiency of the emission capture system and add−on control device and the use of these data is approved by the department.

(d) You shall meet the requirements for bypass lines in sub. (9) (b) for controlled coating operations for which you do not conduct liquid−liquid material balances. If any bypass line is opened and emissions are diverted to the atmosphere when the coating operation is running, this is a deviation that shall be reported as specified in s. NR 465.45 (1) (c) 6. and (2) (a) 7. For the purposes of completing the compliance calculations specified in sub. (2) (h), you shall treat the materials used during a deviation on a controlled coating operation as if they were used on an uncontrolled coating operation for the time period of the deviation as indicated in Equation 1 of sub. (2).

(e) You shall demonstrate continuous compliance with the work practice standards in s. NR 465.43 (4). If you did not develop a work practice plan, or you did not implement the plan, or you did not keep the records required by s. NR 465.45 (3) (k) 8., this is a deviation from the work practice standards that shall be reported as specified in s. NR 465.45 (1) (c) 6. and (2) (a) 7.

(f) As part of each semiannual compliance report required in s. NR 465.45 (2), you shall identify the coating operations for which you used the emission rate with add−on controls option. If there were no deviations from the emission limits in s. NR 465.43 (1), you shall submit a statement that you were in compliance with the emission limits during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in s. NR 465.43 (1), and you achieved the operating limits required by s. NR 465.43 (3) and the work practice standards required by s. NR 465.43 (4) during each compliance period.

(g) During periods of startup, shutdown or malfunction of the emission capture system, add−on control device, or coating operation that may affect emission capture or control device efficiency, you shall operate in accordance with the startup, shutdown and malfunction plan required by s. NR 465.44 (1) (c).

(j) You shall maintain records as specified in s. NR 465.45 (3) and (4).

(5) WHAT ARE THE GENERAL REQUIREMENTS FOR PERFORMANCE TESTS? (a) You shall conduct each performance test required by sub. (1) according to the requirements in s. NR 460.06 (4) (a) and under the conditions in this paragraph, unless you obtain a waiver of the performance test according to the provisions in s. NR 460.06 (7).

1. 'Representative coating operation operating conditions.' You shall conduct the performance test under representative operating conditions for the coating operation. Operations during periods of startup, shutdown or malfunction and during periods of non−operation do not constitute representative conditions. You shall record the process information that is necessary to document operating conditions during the test and explain why the conditions represent normal operation.

2. 'Representative emission capture system and add−on control device operating conditions.' You shall conduct the performance test when the emission capture system and add−on control device are operating at a representative flow rate, and the add−on control device is operating at a representative inlet concentration. You shall record information that is necessary to document emission capture system and add−on control device operating conditions during the test and explain why the conditions represent normal operation.

(b) You shall conduct each performance test of an emission capture system according to the requirements in sub. (6). You shall conduct each performance test of an add−on control device according to the requirements in sub. (7).

(6) HOW DO I DETERMINE THE EMISSION CAPTURE SYSTEM EFFICIENCY? You shall use the procedures and test methods in this subsection to determine capture efficiency as part of the performance test required by sub. (1).

(a) *Assuming 100% capture efficiency.* You may assume the capture system efficiency is 100% if both of the conditions in subds. 1. and 2. are met.

1. The capture system meets the criteria in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), for a PTE and directs all the exhaust gases from the enclosure to an add−on control device.

2. All coatings, thinners, other additives and cleaning materials used in the coating operation are applied within the capture system; coating solvent flash−off, curing and drying occurs within the capture system; and the removal or evaporation of cleaning materials from the surfaces they are applied to occurs within the capture system.

Note: This criterion is not met if parts enter the open shop environment when being moved between a spray booth and a curing oven.

(b) *Measuring capture efficiency.* If the capture system does not meet both of the conditions in par. (a) 1. and 2., then you shall use one of the 3 protocols described in pars. (c), (d) and (e) to measure capture efficiency. The capture efficiency measurements use total volatile hydrocarbon (TVH) capture efficiency as a surrogate for organic HAP capture efficiency. For the protocols in pars. (c) and (d), the capture efficiency measurement shall consist of 3 test runs. Each test run shall be at least 3 hours duration or the length of a production run, whichever is longer, up to 8 hours. For the purposes of this test, a production run means the time required for a single part to go from the beginning to the end of the production, which includes surface preparation activities and drying and curing time.

(c) *Liquid−to−uncaptured−gas protocol using a temporary total enclosure or building enclosure.* The liquid−to−uncaptured−gas protocol compares the mass of liquid TVH in materials used in the coating operation to the mass of TVH emissions not captured by the emission capture system. You shall use a temporary total enclosure or a building enclosure and the procedures in subds. 1. to 6. to measure emission capture system efficiency when using the liquid−to−uncaptured−gas protocol.

1. Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners, other additives and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash−off, curing and drying areas. The areas of the coating operation where capture devices collect emissions for routing to an add−on control device, such as the entrance and exit areas of an oven or spray booth, shall also be inside the enclosure. The enclosure shall meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

2. Use Method 204A or 204F in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to determine the mass fraction of TVH liquid input from each coating, thinner, other additive and cleaning material used in the coating operation during each capture efficiency test run. To make the determination, substitute TVH for each occurrence of the term VOC in the methods.

3. Use Equation 1 of this subsection to calculate the total mass of TVH liquid input from all the coatings, thinners, other additives and cleaning materials used in the coating operation during each capture efficiency test run:

$$TVH_{used} = \sum_{i=1}^{n} (TVH_i)(Vol_i)(D_i) \qquad \text{(Equation 1)}$$

where:

TVH_{used} is the mass of liquid TVH in materials used in the coating operation during the capture efficiency test run, kg (lb)

TVH_i is the mass fraction of TVH in coating, thinner or other additive, or cleaning material, i, that is used in the coating operation during the capture efficiency test run, kg (lb) of TVH per kg (lb) of material

Vol_i is the total volume of coating, thinner or other additive, or cleaning material, i, used in the coating operation during the capture efficiency test run, liters (gallons)

D_i is the density of coating, thinner or other additive, or cleaning material, i, kg (lb) of material per liter (gallon) of material

n is the number of different coatings, thinners and other additives, and cleaning materials used in the coating operation during the capture efficiency test run

4. Use Method 204D or 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to measure the total mass of TVH emissions that are not captured by the emission capture system. They are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

a. Use Method 204D in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), if the enclosure is a temporary total enclosure.

b. Use Method 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure, other than the coating operation for which capture efficiency is being determined, shall be shut down, but all fans and blowers shall be operating normally.

5. For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using Equation 2:

$$CE = \frac{(TVH_{used} - TVH_{uncaptured})}{TVH_{used}} x100 \qquad \text{(Equation 2)}$$

where:

CE is the capture efficiency of the emission capture system vented to the add−on control device, percent

TVH_{used} is the total mass of TVH liquid input used in the coating operation during the capture efficiency test run, kg (lb)

$TVH_{uncaptured}$ is the total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg (lb)

6. Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the 3 test runs.

(d) *Gas−to−gas protocol using a temporary total enclosure or a building enclosure.* The gas−to−gas protocol compares the mass of TVH emissions captured by the emission capture system to the mass of TVH emissions not captured. You shall use a temporary total enclosure or a building enclosure and the procedures in subds. 1. to 5. to measure emission capture system efficiency when using the gas−to−gas protocol.

1. Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and other additives, and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash−off, curing and drying areas. The areas of the coating operation where capture devices collect emissions generated by the coating operation for routing to an add−on control device, such as the entrance and exit areas of an oven or a spray

booth, shall also be inside the enclosure. The enclosure shall meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

2. Use Method 204B or 204C in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to measure the total mass of TVH emissions captured by the emission capture system during each capture efficiency test run as measured at the inlet to the add−on control device. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

a. The sampling points for the Method 204B or 204C measurement shall be upstream from the add−on control device and shall represent total emissions routed from the capture system and entering the add−on control device.

b. If multiple emission streams from the capture system enter the add−on control device without a single common duct, then the emissions entering the add−on control device shall be simultaneously measured in each duct and the total emissions entering the add−on control device shall be determined.

3. Use Method 204D or 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to measure the total mass of TVH emissions that are not captured by the emission capture system; they are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

a. Use Method 204D in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), if the enclosure is a temporary total enclosure.

b. Use Method 204E in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure, other than the coating operation for which capture efficiency is being determined, shall be shut down, but all fans and blowers shall be operating normally.

4. For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using Equation 3:

$$CE = \frac{TVH_{captured}}{(TVH_{captured} + TVH_{uncaptured})} x100$$

(Equation 3)

where:

CE is the capture efficiency of the emission capture system vented to the add−on control device, percent

$TVH_{captured}$ is the total mass of TVH captured by the emission capture system as measured at the inlet to the add−on control device during the emission capture efficiency test run, kg (lb)

$TVH_{uncaptured}$ is the total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg (lb)

5. Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the 3 test runs.

(e) *Alternative capture efficiency protocol*. As an alternative to the procedures specified in pars. (c) and (d) and subject to the approval of the department, you may determine capture efficiency using any other capture efficiency protocol and test methods that satisfy the criteria of either the DQO or LCL approach as described in 40 CFR part 63, Subpart KK, Appendix A, incorporated by reference in s. NR 484.04 (24).

(7) HOW DO I DETERMINE THE ADD−ON CONTROL DEVICE EMISSION DESTRUCTION OR REMOVAL EFFICIENCY? You shall use the procedures and test methods in this subsection to determine the add−on control device emission destruction or removal efficiency as part of the performance test required by sub. (1). You shall conduct 3 test runs as specified in s. NR 460.06 (4) (c) and each test run shall last at least one hour. If the source is a magnet wire coating machine, you may use the procedures in section 3.0 in 40 CFR part 63, Subpart MMMM, Appendix A, incorporated by reference in s. NR 484.04 (24g), as an alternative.

(a) For all types of add−on control devices, use the test methods specified in subds. 1. to 5.

1. Method 1 or 1A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), as appropriate, to select sampling sites and velocity traverse points.

2. Method 2, 2A, 2C, 2D, 2F or 2G in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), as appropriate, to measure gas volumetric flow rate.

3. Method 3, 3A or 3B in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), as appropriate, for gas analysis to determine dry molecular weight.

4. Method 4 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13) to determine stack gas moisture.

5. Methods for determining gas volumetric flow rate, dry molecular weight and stack gas moisture shall be performed, as applicable, during each test run.

(b) Measure total gaseous organic mass emissions as carbon at the inlet and outlet of the add−on control device simultaneously, using either Method 25 or 25A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13).

1. Use Method 25 if the add−on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be more than 50 parts per million (ppm) at the control device outlet.

2. Use Method 25A if the add−on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be 50 ppm or less at the control device outlet.

3. Use Method 25A if the add−on control device is not an oxidizer.

(c) If 2 or more add−on control devices are used for the same emission stream, then you shall measure emissions at the outlet to the atmosphere of each device.

Note: For example, if one add−on control device is a concentrator with an outlet to the atmosphere for the high−volume dilute stream that has been treated by the concentrator, and a second add−on control device is an oxidizer with an outlet to the atmosphere for the low−volume concentrated stream that is treated with the oxidizer, you shall measure emissions at the outlet of the oxidizer and the high volume dilute stream outlet of the concentrator.

(d) For each test run, determine the total gaseous organic emissions mass flow rates for the inlet and the outlet of the add−on control device, using Equation 1 of this subsection. If there is more than one inlet or outlet to the add−on control device, you shall calculate the total gaseous organic mass flow rate using Equation 1 for each inlet and each outlet and then total all of the inlet emissions and total all of the outlet emissions.

$$M_f = Q_{sd} C_c (12)(0.0416)(10^{-6})$$

(Equation 1)

where:

M_f is the total gaseous organic emissions mass flow rate, kg per hour (h)

C_c is the concentration of organic compounds as carbon in the vent gas, as determined by Method 25 or Method 25A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), parts per million by volume (ppmv), dry basis

Q_{sd} is the volumetric flow rate of gases entering or exiting the add−on control device, as determined by Method 2, 2A, 2C, 2D,

2F or 2G in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), dry standard cubic meters/hour (dscm/h)

0.0416 is the conversion factor for molar volume, kg−moles per cubic meter (mol/m^3) (at 293 Kelvin (K) and 760 millimeters of mercury (mmHg))

(e) For each test run, determine the add−on control device organic emissions destruction or removal efficiency, using Equation 2:

$$DRE = \frac{M_{fi} - M_{fo}}{M_{fi}} x100 \qquad \text{(Equation 2)}$$

where:

DRE is the organic emissions destruction or removal efficiency of the add−on control device, percent

M_{fi} is the total gaseous organic emissions mass flow rate at the inlet to the add−on control device, using Equation 1of this subsection, kg /h

M_{fo} is the total gaseous organic emissions mass flow rate at the outlet of the add−on control device, using Equation 1 of this subsection, kg/h

(f) Determine the emission destruction or removal efficiency of the add−on control device as the average of the efficiencies determined in the 3 test runs and calculated in Equation 2 of this subsection.

(8) HOW DO I ESTABLISH THE EMISSION CAPTURE SYSTEM AND ADD−ON CONTROL DEVICE OPERATING LIMITS DURING THE PERFORMANCE TEST? During the performance test required by sub. (1) and described in subs. (5), (6) and (7), you shall establish the operating limits required by s. NR 465.43 (3) according to this subsection, unless you have received approval for alternative monitoring and operating limits under 40 CFR 63.8(f) as specified in s. NR 465.43 (3).

(a) *Thermal oxidizers*. If your add−on control device is a thermal oxidizer, establish the operating limits according to subds. 1. and 2.

1. During the performance test, you shall monitor and record the combustion temperature at least once every 15 minutes during each of the 3 test runs. You shall monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

2. Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature shall be the minimum operating limit for your thermal oxidizer.

(b) *Catalytic oxidizers*. If your add−on control device is a catalytic oxidizer, establish the operating limits according to either subds. 1. and 2. or subds. 3. and 4. If the source is a magnet wire coating machine, you may use the procedures in section 3.0 in 40 CFR part 63, Subpart MMMM, Appendix A, incorporated by reference in s. NR 484.04 (24g), as an alternative.

1. During the performance test, you shall monitor and record the temperature just before the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes during each of the 3 test runs.

2. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed and the average temperature difference across the catalyst bed maintained during the performance test. The average temperature just before the catalyst bed and the average temperature difference across the catalyst bed shall be the minimum operating limits for your catalytic oxidizer.

3. You shall monitor the temperature at the inlet to the catalyst bed and implement a site−specific inspection and maintenance plan for your catalytic oxidizer as specified in subd. 4. During the performance test, you shall monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the 3 test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed during the performance test. This average temperature shall be the minimum operating limit for your catalytic oxidizer.

4. You shall develop and implement an inspection and maintenance plan for your catalytic oxidizers for which you elect to monitor according to subd. 3. The plan shall address, at a minimum, the elements specified in subd. 4. a. to c.

a. Annual sampling and analysis of the catalyst activity, or conversion efficiency, following the manufacturer's or catalyst supplier's recommended procedures. If problems are found during the catalyst activity test, you shall replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations.

b. Monthly external inspection of the catalytic oxidizer system, including the burner assembly and fuel supply lines for problems and, as necessary, adjustment of the equipment to assure proper air−to−fuel mixtures.

c. Annual internal inspection of the catalyst bed to check for channeling, abrasion and settling. If problems are found during the annual internal inspection of the catalyst, you shall replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations. If the catalyst bed is replaced and is not of like or better kind and quality as the old catalyst, then you shall conduct a new performance test to determine destruction efficiency according to sub. (7). If a catalyst bed is replaced and the replacement catalyst is of like or better kind and quality as the old catalyst, then a new performance test to determine destruction efficiency is not required and you may continue to use the previously established operating limits for that catalytic oxidizer.

(c) *Regenerative carbon adsorbers*. If your add−on control device is a regenerative carbon adsorber, establish the operating limits according to subds. 1. and 2.

1. You shall monitor and record the total regeneration desorbing gas mass flow for each regeneration cycle, and the carbon bed temperature after each carbon bed regeneration and cooling cycle for the regeneration cycle either immediately preceding or immediately following the performance test.

2. The operating limits for your regenerative carbon adsorber shall be the minimum total desorbing gas mass flow recorded during the regeneration cycle and the maximum carbon bed temperature recorded after the cooling cycle.

(d) *Condensers*. If your add−on control device is a condenser, establish the operating limits according to subds. 1. and 2.

1. During the performance test, you shall monitor and record the condenser outlet, or product side, gas temperature at least once every 15 minutes during each of the 3 test runs.

2. Use the data collected during the performance test to calculate and record the average condenser outlet, or product side, gas temperature maintained during the performance test. This average condenser outlet gas temperature shall be the maximum operating limit for your condenser.

(e) *Concentrators*. If your add−on control device includes a concentrator, you shall establish operating limits for the concentrator according to subds. 1. to 4.

1. During the performance test, you shall monitor and record the desorption concentrate stream gas temperature at least once every 15 minutes during each of the 3 runs of the performance test.

2. Use the data collected during the performance test to calculate and record the average temperature. This average temperature shall be the minimum operating limit for the desorption concentrate gas stream temperature.

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3. During the performance test, you shall monitor and record the pressure drop of the dilute stream across the concentrator at least once every 15 minutes during each of the 3 runs of the performance test.

4. Use the data collected during the performance test to calculate and record the average pressure drop. This average pressure drop shall be the minimum operating limit for the dilute stream across the concentrator.

(f) *Emission capture systems*. For each capture device that is not part of a PTE that meets the criteria of sub. (6) (a), establish an operating limit for either the gas volumetric flow rate or duct static pressure, as specified in subds. 1. and 2. The operating limit for a PTE is specified in Table 1 of this subchapter. If the source is a magnet wire coating machine, you may use the procedures in section 2.0 of 40 CFR part 63, Subpart MMMM, Appendix A, incorporated by reference in s. NR 484.04 (24g), as an alternative.

1. During the capture efficiency determination required by sub. (1) and described in subs. (5) and (6), you shall monitor and record either the gas volumetric flow rate or the duct static pressure for each separate capture device in your emission capture system at least once every 15 minutes during each of the 3 test runs at a point in the duct between the capture device and the add−on control device inlet.

2. Calculate and record the average gas volumetric flow rate or duct static pressure for the 3 test runs for each capture device. This average gas volumetric flow rate or duct static pressure shall be the minimum operating limit for that specific capture device.

(9) WHAT ARE THE REQUIREMENTS FOR CONTINUOUS PARAMETER MONITORING SYSTEM INSTALLATION, OPERATION AND MAINTENANCE? (a) *General*. You shall install, operate and maintain each CPMS specified in pars. (c), (e), (f) and (g) according to subds. 1. to 6. You shall install, operate and maintain each CPMS specified in pars. (b) and (d) according to subds. 3. to 5.

1. The CPMS shall complete a minimum of one cycle of operation for each successive 15−minute period. You shall have a minimum of 4 equally spaced successive cycles of CPMS operation in one hour.

2. You shall determine the average of all recorded readings for each successive 3−hour period of the emission capture system and add−on control device operation.

3. You shall record the results of each inspection, calibration and validation check of the CPMS.

4. You shall maintain the CPMS at all times and have available necessary parts for routine repairs of the monitoring equipment.

5. You shall operate the CPMS and collect emission capture system and add−on control device parameter data at all times that a controlled coating operation is operating, except during monitoring malfunctions, associated repairs and required quality assurance or control activities, including, if applicable, calibration checks and required zero and span adjustments.

6. You may not use emission capture system or add−on control device parameter data recorded during monitoring malfunctions, associated repairs, out−of−control periods, or required quality assurance or control activities when calculating data averages. You shall use all the data collected during all other periods in calculating the data averages for determining compliance with the emission capture system and add−on control device operating limits.

7. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the CPMS to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out−of−control and data are not available for required calculations is a deviation from the monitoring requirements.

(b) *Capture system bypass line*. You shall meet the requirements of subds. 1. and 2. for each emission capture system that contains bypass lines that could divert emissions away from the add−on control device to the atmosphere.

1. You shall monitor or secure the valve or closure mechanism controlling the bypass line in a non−diverting position in such a way that the valve or closure mechanism cannot be opened without creating a record that the valve was opened. The method used to monitor or secure the valve or closure mechanism shall meet one of the requirements specified in subd. 1. a. to e.

a. Install, calibrate, maintain and operate according to the manufacturer's specifications a flow control position indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add−on control device or diverted from the add−on control device. The time of occurrence and flow control position shall be recorded, as well as every time the flow direction is changed. The flow control position indicator shall be installed at the entrance to any bypass line that could divert the emissions away from the add−on control device to the atmosphere.

b. Secure any bypass line valve in the closed position with a car−seal or a lock−and−key type configuration. You shall visually inspect the seal or closure mechanism at least once every month to ensure that the valve is maintained in the closed position, and the emissions are not diverted away from the add−on control device to the atmosphere.

c. Ensure that any bypass line valve is in the closed (non−diverting) position through monitoring of valve position at least once every 15 minutes. You shall inspect the monitoring system at least once every month to verify that the monitor will indicate valve position.

d. Use an automatic shutdown system in which the coating operation is stopped when flow is diverted by the bypass line away from the add−on control device to the atmosphere when the coating operation is running. You shall inspect the automatic shutdown system at least once every month to verify that it will detect diversions of flow and shut down the coating operation.

e. Install, calibrate, maintain and operate according to the manufacturer's specifications a flow direction indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add−on control device or diverted from the add−on control device. Each time the flow direction changes, the next reading of the time of occurrence and flow direction shall be recorded. The flow direction indicator shall be installed in each bypass line or air makeup supply line that could divert the emissions away from the add−on control device to the atmosphere.

2. If any bypass line is opened, you shall include a description of why the bypass line was opened and the length of time it remained open in the semiannual compliance reports required in s. NR 465.45 (2).

(c) *Thermal oxidizers and catalytic oxidizers*. If you are using a thermal oxidizer or catalytic oxidizer as an add−on control device, including those used with concentrators or with carbon adsorbers to treat desorbed concentrate streams, you shall comply with the requirements in subds. 1. to 3.

1. For a thermal oxidizer, install a gas temperature monitor in the firebox of the thermal oxidizer or in the duct immediately downstream of the firebox before any substantial heat exchange occurs.

2. For a catalytic oxidizer, install gas temperature monitors upstream or downstream or both of the catalyst bed as required in sub. (8) (b).

3. For all thermal oxidizers and catalytic oxidizers, you shall meet the requirements in par. (a) and subd. 3. a. to e. for each gas temperature monitoring device.

a. Locate the temperature sensor in a position that provides a representative temperature.

b. Use a temperature sensor with a measurement sensitivity of 5°F or 1.0% of the temperature value, whichever is larger.

c. Before using the sensor for the first time or when relocating or replacing the sensor, perform a validation check by comparing the sensor output to a calibrated temperature measurement device or by comparing the sensor output to a simulated temperature.

d. Conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor output to redundant temperature sensors, to calibrated temperature measurement devices, or to temperature simulation devices.

e. Conduct a visual inspection of each sensor every quarter if redundant temperature sensors are not used.

(d) *Regenerative carbon adsorbers*. If you are using a regenerative carbon adsorber as an add−on control device, you shall monitor the total regeneration desorbing gas mass flow for each regeneration cycle, the carbon bed temperature after each regeneration and cooling cycle, and comply with par. (a) 3. to 5. and subds. 1. to 3.

1. The regeneration desorbing gas mass flow monitor shall be an integrating device having a measurement sensitivity of plus or minus 10% capable of recording the total regeneration desorbing gas mass flow for each regeneration cycle.

2. The carbon bed temperature monitor shall be capable of recording the temperature within 15 minutes of completing any carbon bed cooling cycle.

3. For all regenerative carbon adsorbers, you shall meet the requirements in par. (c) 3. a. to e. for each temperature monitoring device.

(e) *Condensers*. If you are using a condenser, you shall monitor the condenser outlet, or product side, gas temperature and comply with par. (a) and subds. 1. and 2.

1. The temperature monitor shall provide a gas temperature record at least once every 15 minutes.

2. For all condensers, you shall meet the requirements in par. (c) 3. a. to e. for each temperature monitoring device.

(f) *Concentrators*. If you are using a concentrator, such as a zeolite wheel or rotary carbon bed concentrator, you shall comply with the requirements in subds. 1. and 2.

1. You shall install a temperature monitor in the desorption gas stream. The temperature monitor shall meet the requirements in pars. (a) and (c) 3.

2. You shall install a device to monitor pressure drop across the zeolite wheel or rotary carbon bed. The pressure monitoring device shall meet the requirements in pars. (a) and (g) 2.

(g) *Emission capture systems*. The capture system monitoring system shall comply with the applicable requirements in subds. 1. and 2. If the source is a magnet wire coating machine, you may use the procedures in section 2.0 of 40 CFR part 63, Subpart MMMM, Appendix A, incorporated by reference in s. NR 484.04 (24g), as an alternative.

1. For each flow measurement device, you shall meet the requirements in par. (a) and the requirements in subd. 1. a. to g.

a. Locate a flow sensor in a position that provides a representative flow measurement in the duct from each capture device in the emission capture system to the add−on control device.

b. Use a flow sensor with an accuracy of at least 10% of the flow.

c. Perform an initial sensor calibration in accordance with the manufacturer's requirements.

d. Perform a validation check before initial use or upon relocation or replacement of a sensor. Validation checks include comparison of sensor values with electronic signal simulations or via relative accuracy testing.

e. Conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor values with electronic signal simulations or via relative accuracy testing.

f. Perform leak checks monthly.

g. Perform visual inspections of the sensor system quarterly if there is no redundant sensor.

2. For each pressure drop measurement device, you shall comply with the requirements in par. (a) and the requirements in subd. 2. a. to g.

a. Locate the pressure sensor in or as close to a position that provides a representative measurement of the pressure drop across each opening you are monitoring.

b. Use a pressure sensor with an accuracy of at least 0.5 inches of water column or 5% of the measured value, whichever is larger.

c. Perform an initial calibration of the sensor according to the manufacturer's requirements.

d. Conduct a validation check before initial operation or upon relocation or replacement of a sensor. Validation checks include comparison of sensor values to calibrated pressure measurement devices or to pressure simulation using calibrated pressure sources.

e. Conduct accuracy audits every quarter and after every deviation. Accuracy audits include comparison of sensor values to calibrated pressure measurement devices or to pressure simulation using calibrated pressure sources.

f. Perform monthly leak checks on pressure connections. A pressure of at least 1.0 inches of water column to the connection shall yield a stable sensor result for at least 15 seconds.

g. Perform a visual inspection of the sensor at least monthly if there is no redundant sensor.

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Table 1

Operating Limits if Using the Emission Rate With Add−On Controls Option in s. NR 465.43 (2) (c)

If you are required to comply with operating limits by s. NR 465.43 (3) (b), you shall comply with the applicable operating limits in the following table.

For the following device:	You shall meet the following operating limit:	And you shall demonstrate continuous compliance with the operating limit by:
(1) Thermal oxidizer	(a) The average combustion temperature in any 3−hour period may not fall below the combustion temperature limit established according to s. NR 465.48 (8) (a).	1. Collecting the combustion temperature data according to s. NR 465.48 (9) (c); 2. Reducing the data to 3−hour block averages; and 3. Maintaining the 3−hour average combustion temperature at or above the temperature limit.
(2) Catalytic oxidizer	(a) The average temperature measured just before the catalyst bed in any 3−hour period may not fall below the limit established according to s. NR 465.48 (8) (b); and either par. (b) or (c). For magnet wire coating machines, temperature can be monitored below or after the catalyst bed.	1. Collecting the temperature data according to s. NR 465.48 (9) (c); 2. Reducing the data to 3−hour block averages; and 3. Maintaining the 3−hour average temperature before, or, for magnet wire coating machines, after the catalyst bed at or above the temperature limit.
	(b) Ensure that the average temperature difference across the catalyst bed in any 3−hour period does not fall below the temperature difference limit established according to s. NR 465.48 (8) (b) 2.	1. Collecting the temperature data according to s. NR 465.48 (9) (c); 2. Reducing the data to 3−hour block averages; and 3. Maintaining the 3−hour average temperature difference at or above the temperature difference limit.
	(c) Develop and implement an inspection and maintenance plan according to s. NR 465.48 (8) (b) 4., or, for magnet wire coating machines, according to section 3.0 of 40 CFR part 63, Subpart MMMM, Appendix A, incorporated by reference in s. NR 484.04 (24g).	1. Maintaining an up−to−date inspection and maintenance plan, records of annual catalyst activity checks, records of monthly inspections of the oxidizer system, and records of the annual internal inspections of the catalyst bed. If a problem is discovered during a monthly or annual inspection required by s. NR 465.48 (8) (b) 4., or, for magnet wire coating machines, by section 3.0 of 40 CFR part 63, Subpart MMMM, Appendix A, incorporated by reference in s. NR 484.04 (24g), you shall take corrective action as soon as practicable consistent with the manufacturer's recommendations.

Table 1 (Continued)
Operating Limits if Using the Emission Rate With Add−On Controls Option in s. NR 465.43 (2) (c)

For the following device:	You shall meet the following operating limit:	And you shall demonstrate continuous compliance with the operating limit by:
(3) Regenerative carbon adsorber	(a) The total regeneration desorbing gas mass flow for each carbon bed regeneration cycle may not fall below the total regeneration desorbing gas mass flow limit established according to s. NR 465.48 (8) (c).	1. Measuring the total regeneration desorbing gas mass flow for each regeneration cycle according to s. NR 465.48 (9) (d); and 2. Maintaining the total regeneration desorbing gas mass flow at or above the mass flow limit.
	(b) The temperature of the carbon bed, after completing each regeneration and any cooling cycle, may not exceed the carbon bed temperature limit established according to s. NR 465.48 (8) (c).	1. Measuring the temperature of the carbon bed after completing each regeneration and any cooling cycle according to s. NR 465.48 (9) (d); and 2. Operating the carbon beds so that each carbon bed is not returned to service after completing each regeneration and any cooling cycle until the recorded temperature of the carbon bed is at or below the temperature limit.
(4) Condenser	(a) The average condenser outlet, or product side, gas temperature in any 3−hour period may not exceed the temperature limit established according to s. NR 465.48 (8) (d).	1. Collecting the condenser outlet gas temperature according to s. NR 465.48 (9) (e); 2. Reducing the data to 3−hour block averages; and 3. Maintaining the 3−hour average gas temperature at the outlet at or below the temperature limit.
(5) Concentrators, including zeolite wheels and rotary carbon adsorbers	(a) The average gas temperature of the desorption concentrate stream in any 3− hour period may not fall below the limit established according to s. NR 465.48 (8) (e).	1. Collecting the temperature data according to s. NR 465.48 (9) (f); 2. Reducing the data to 3−hour block averages; and 3. Maintaining the 3−hour average temperature at or above the temperature limit.
	(b) The average pressure drop of the dilute stream across the concentrator in any 3− hour period may not fall below the limit established according to s. NR 465.48 (8) (e).	1. Collecting the pressure drop data according to s. NR 465.48 (9) (f); 2. Reducing the pressure drop data to 3−hour block averages; and 3. Maintaining the 3−hour average pressure drop at or above the pressure drop limit.

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Table 1 (Continued)
Operating Limits if Using the Emission Rate With Add−On Controls Option in s. NR 465.43 (2) (c)

For the following device:	You shall meet the following operating limit:	And you shall demonstrate continuous compliance with the operating limit by:
(6) Emission capture system that is a PTE according to s. NR 465.48 (6) (a).	(a) The direction of the air flow at all times shall be into the enclosure; and either (b) or (c) shall be satisfied.	1. Collecting the direction of air flow, and either the facial velocity of air through all natural draft openings according to s. NR 465.48 (9) (g) 1. or the pressure drop across the enclosure according to s. NR 465.48 (9) (g) 2.; and 2. Maintaining the facial velocity of air flow through all natural draft openings or the pressure drop at or above the facial velocity limit or pressure drop limit, and maintaining the direction of air flow into the enclosure at all times.
	(b) The average facial velocity of air through all natural draft openings in the enclosure shall be at least 200 feet per minute.	1. See items (6)(a)1. and 2.
	(c) The pressure drop across the enclosure shall be at least 0.007 inch H2O, as established in Method 204 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).	1. See items (6)(a)1. and 2.
(7) Emission capture system that is not a PTE according to s. NR 465.48 (6) (a)	(a) The average gas volumetric flow rate or duct static pressure in each duct between a capture device and add−on control device inlet in any 3−hour period may not fall below the average volumetric flow rate or duct static pressure limit established for that capture device according to s. NR 465.48 (8) (f).	1. Collecting the gas volumetric flow rate or duct static pressure for each capture device according to s. NR 465.48 (9) (g); 2. Reducing the data to 3−hour block averages; and 3. Maintaining the 3−hour average gas volumetric flow rate or duct static pressure for each capture device at or above the gas volumetric flow rate or duct static pressure limit.

Table 2

Default Organic HAP Mass Fraction for Solvents and Solvent Blends

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data and which match either the solvent blend name or the chemical abstract series (CAS) number. If a solvent blend matches both the name and CAS number for an entry, that entry's organic HAP mass fraction shall be used for that solvent blend. Otherwise, use the organic HAP mass fraction for the entry matching either the solvent blend name or CAS number, or use the organic HAP mass fraction from Table 3 of this subchapter if neither the name or CAS number match.

Solvent or Solvent Blend	CAS No.	Average Organic HAP Mass Fraction	Typical Organic HAP, percent by mass
(1) Toluene	108−88−3	1.0	toluene
(2) Xylenes	1330−20−7	1.0	xylenes, ethylbenzene
(3) Hexane	110−54−3	0.5	n−hexane
(4) n−Hexane	110−54−3	1.0	n−hexane
(5) Ethylbenzene	100−41−4	1.0	ethylbenzene
(6) Aliphatic 140	−−−−−	0	none
(7) Aromatic 100	−−−−−	0.02	1% xylene, 1% cumene
(8) Aromatic 150	−−−−−	0.09	naphthalene
(9) Aromatic naphtha	64742−95−6	0.02	1% xylene, 1% cumene
(10) Aromatic solvent	64742−94−5	0.1	naphthalene
(11) Exempt mineral spirits	8032−32−4	0	none
(12) Ligroines (VM & P)	8032−32−4	0	none
(13) Lactol spirits	64742−89−6	0.15	toluene
(14) Low aromatic white spirit	64742−82−1	0	none
(15) Mineral spirits	64742−88−7	0.01	xylenes
(16) Hydrotreated naphta	64742−48−9	0	none
(17) Hydrotreated light distillate	64742−82−1	0	none
(18) Stoddard solvent	8052−41−3	0.01	xylenes
(19) Super high−flash naphta	64742−95−6	0.05	xylenes
(20) Varsol® solvent	8052−49−3	0.01	0.5% xylenes, 0.5% ethylbenzene
(21) VM & P naphtha	64742−89−8	0.06	3% toluene, 3% xylene
(22) Petroleum distillate mixture	68477−31−6	0.08	4% naphthalene, 4% biphenyl

Table 3

Default Organic HAP Mass Fraction for Petroleum Solvent Groups [a]

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data.

Solvent Type	Average Organic HAP Mass Fraction	Typical Organic HAP, percent by mass
Aliphatic [b]	0.03	1% Xylene, 1% Toluene, and 1% Ethylbenzene.
Aromatic [c]	0.06	4% Xylene, 1% Toluene and 1% Ethylbenzene.

a Use this table only if the solvent blend does not match any of the solvent blends in Table 2 by either solvent blend name or CAS number and you only know whether the blend is aliphatic or aromatic.

b Mineral Spirits 135, Mineral Spirits 150 EC, Naphtha, Mixed Hydrocarbon, Aliphatic Hydrocarbon, Aliphatic Naphtha, Naphthol Spirits, Petroleum Spirits, Petroleum Oil, Petroleum Naphtha, Solvent Naphtha, Solvent Blend.

c Medium−flash Naphtha, High−flash Naphtha, Aromatic Naphtha, Light Aromatic Naphtha, Light Aromatic Hydrocarbons, Aromatic Hydrocarbons, Light Aromatic Solvent.

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