

**AIR EMISSION PERMIT NO. 08300023- 001
IS ISSUED TO**

Pfingsten Partners LLC

Norcraft Companies LLC - Cottonwood
67 East 2nd Street North
Cottonwood, Lyon County, Minnesota 56229

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type	Application Date
Total Facility Operating Permit	June 25, 1998

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit and with all general conditions listed in Minn. R. 7007.0800, subp. 16, which are incorporated by reference. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal ; Part 70

Issue Date: April 13, 1999

Expiration: April 13, 2004

All Title I Conditions do not expire.

Don Smith

Rodney E. Massey
District Manager
South District

for Karen A. Studders
Commissioner
Minnesota Pollution Control Agency

KC:dms

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NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(651)296-6300
Outside Metro Area	1-800-657-3864
TTY	(651)282-5332

The rule governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Any requirements which have been determined not to apply are listed in Table A of this permit.

The permit shield, however does not apply to: Minn. R. ch. 7030 (Noise Pollution Control).

FACILITY DESCRIPTION:

Norcraft Companies operates a stationary wood kitchen cabinetry manufacturing facility located in Cottonwood, Minnesota. The facility consists of five stain booths (EU-001 to EU-005) with particulate control consisting of high efficiency filters. EU-001, EU-002 and EU-003 have their own stack, with EU-004 and EU-005 sharing a stack. The facility also has a drying oven(EU-006) and a laminator (EU-024) with no controls and their own stacks, a frame sander(EU-007) and drill tubs (EU-008) controlled by a Torrit Fabric Filter and exiting out one stack and several miscellaneous wood manufacturing machines(EU-009 - EU-023) controlled by a Pnumafil Fabric Filter and exiting out a single stack.

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/13/99

Facility Name: Norcraft Companies LLC - Cottonwood

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Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item:**Total Facility**

What to do	Why to do it
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Record keeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007. 1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not federally enforceable.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 001

Subject Item: GP 002 Dust Collection System For Production Machines venting out stack #7**Associated Items:** CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

EU 009 Radial Arm Saw

EU 010 2- Cut-Off Saw

EU 011 2-Toe Notchers

EU 012 SCMI Panel Saw

EU 013 L- Machine

EU 014 2- Back Machines

EU 015 Uni-saw (10")

EU 016 Router

EU 017 Powermatic Table Saw

EU 018 Powermatic

EU 019 Edge Bander

EU 020 Wall Machine Grooving

EU 021 Base Machine Grooving

EU 022 Double Toe Notcher

EU 023 Giben Panel Saw

SV 007 Misc. Machines Stack

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot unless required to reduce emissions to meet the less stringent limit of either 7011.0730 or 7011.0735 (table 1 and 2, respectively).	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
CONTROL EQUIPMENT REQUIREMENTS	hdr
All exhaust from emission units must be routed to control equipment during operation.	Minn. R. 7007.0800, subp. 14
Operate and maintain control equipment to achieve a control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Minn. R. 7007.0800, subp. 14
Operate and maintain control equipment to achieve a control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency	Minn. R. 7007.0800, subp. 14
Operate and maintain control equipment according to the manufacturer's specifications.	Minn. R. 7007.0800, subp. 14
Once each operating day, the Permittee shall visually observe SV 007 during daylight hours and determine if any visible emissions are present. The Permittee shall maintain a daily written record of the visible emission inspections that states whether or not visible emissions were observed.	Minn. R. 7007.0800, subps. 4 and 5
If visible emissions are observed, or the pressure drop is out of range of the manufacturer's recommended range, during the daily inspection, the Permittee shall follow the Operation and Maintenance plan for the fabric filter and take corrective action as soon as possible. The Permittee shall keep a record of the type and date of any corrective action taken upon completion of any action.	Minn. R. 7007.0800, subps. 5 and 14
Once each operating day, record pressure drop across the baghouse.	Minn. R. 7007.0800, subps. 4 and 5
Baghouse pressure drop shall be maintained between 0.3 and 0.9 inches Hg. If the daily check of baghouse pressure drop shows that the pressure drop is out of this range, the baghouse shall be inspected for malfunction, and corrective action shall be taken to return the operation of the baghouse to proper operation. Record the results of the inspection, and the corrective action taken.	Minn. R. 7007.0800, subps: 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Norcraft Companies LLC - Cottonwood

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Subject Item: GP 003 Sources Subject To Wood Furniture Manufacturer MACT

Associated Items:

- CE 001 Split Paper + Polyester Paint Arrestor
- CE 002 Split Paper + Polyester Paint Arrestor
- CE 003 Split Paper + Polyester Paint Arrestor
- CE 004 Split Paper + Polyester Paint Arrestor
- EU 001 Stain Spray Booth
- EU 002 Topcoat Spray Booth
- EU 003 Spray Booth
- EU 004 Special Use Spray Booth
- EU 006 Drying Oven
- EU 024 Laminator
- SV 001 Stain Spray Booth Stack
- SV 002 Topcoat Spray Booth Stack
- SV 003 Spray Booth Stack
- SV 004 Special Use Spray Booth Stack
- SV 005 Drying Oven Stack
- SV 008 Laminator

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 11 tons/month using 12-month Rolling Average	Title I Condition: To limit particulate matter emissions to less than major source levels as defined by 40 CFR Section 52.21
Particulate Matter < 10 micron: less than or equal to 11 tons/month using 12-month Rolling Average	Title I Condition: To limit particulate matter <10 micron emissions to less than major source levels as defined by 40 CFR Section 52.21
Volatile Organic Compounds: less than or equal to 20.5 tons/month using 12-month Rolling Average combined for all Emission Units.	Title I Condition: To limit VOC emissions to less than major source levels as defined by 40 CFR Section 52.21
Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot unless required to reduce emissions to meet the less stringent limit of either 7011.0730 or 7011.0735 (table 1 and table 2, respectively). This limit applies individually to each stack vent associated with GP 003.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity . This limit applies individually to each stack vent in GP 003.	Minn. R. 7011.0715, subp. 1(B)
HAPs - Volatile: less than or equal to 1.0 lb V-HAP/lb solids, as applied for the existing finishing operations and contact adhesives.	40 CFR Sections 63.802(a)(1) and (2) Emission Limits
Volitile Organic Compounds: less than or equal to 0.8 lb VOC/lb solids, as applied for spray booth coatings.	40 CFR Section 63.802(a)(3) Emission Limits
CONTROL EQUIPMENT REQUIREMENTS	hdr
All exhaust from emission units must be routed to control equipment (Paint Arrestor Filters CE 001 - 004) during coating operations.	Title I Condition: to avoid classification as a major source under 40 CFR Section 52.21
Operate and maintain control equipment to achieve a control efficiency for Particulate Matter < 10 micron: greater than or equal to 92 percent control efficiency	Title I Condition: to avoid classification as a major source under 40 CFR Section 52.21
Operate and maintain control equipment to achieve a control efficiency for Total Particulate Matter: greater than or equal to 92 percent control efficiency	Title I Condition: to avoid classification as a major source under 40 CFR Section 52.21
Operate and maintain each filter according to the control equipment manufacturer's specifications.	Title I Condition: to avoid classification as a major source under 40 CFR Section 52.21 Operation and Maintenance
Once each operating day, the permittee shall visually inspect the condition of the filters, including but not limited to, alignment, saturation, tears, and holes. The Permittee shall maintain a daily written record of the results of the filter inspections.	Title I Condition: to avoid classification as a major source under 40 CFR Section 52.21 Inspection

TABLE A: LIMITS AND OTHER REQUIREMENTS

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If the filters are found to be in need of repair during the visual inspection, the Permittee shall follow the Operation and Maintenance plan for the filter and take corrective actions as soon as possible. The Permittee shall record the type and date of any corrective action taken for each filter, upon completion of any corrective action.	Title I Condition: to avoid classification as a major source under 40 CFR Section 52.21 Corrective Action
WORK PRACTICE STANDARDS	hdr
The facility shall not change the formulation of any washcoat, basecoat, or enamel that is purchased as a premade compliant finishing material.	Minn. R. 7007.0800 subp. 2 to meet the requirements of 40 CFR Sections 63.804(a)(2)(i) and (ii)
Facility shall limit spray gun operation to a maximum of 2 guns in operation at the same time in any one booth.	Minn. R. 7007.0800 subp. 2
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 presented. The plan shall be developed by February 5, 1996. The written work practice implementation plan shall be available for inspection by the Administrator upon request. If the Administrator determines that the work practice implementation plan does not adequately address each of the topics specified or that the plan does not include sufficient mechanisms for ensuring that the work practice standards are being implemented, the Administrator may require the affected source to modify the plan. Revisions or modifications to the plan do not require a revision of the source's Title V permit.	40 CFR Section 63.803(a) Work Practice Implementation Plan
Train all new and existing personnel, including contract personnel, who are involved in: 1. finishing, gluing, cleaning, and washoff operations; 2. use of manufacturing equipment; or 3. implementation of requirements. All new personnel, those hired after December 7, 1995, shall be trained upon hiring. All existing personnel, those hired before December 7, 1995, shall be trained by June 7, 1996. All personnel shall be given refresher training annually. The affected source shall maintain a copy of the training program with the work practice implementation plan. The training program shall include, at a minimum, the following: (1) A list of all current personnel by name and job description that are required to be trained. (2) An outline of the subjects to be covered in the initial and refresher training for each position or group of personnel.	40 CFR Section 63.803(b) Operator Training Course
(continued from above) (3) Lesson plans for courses to be given at the initial and 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. (4) A description of the methods to be used at the completion of initial or refresher training to demonstrate and document successful completion.	40 CFR Section 63.803(b) cont.
Prepare and maintain an inspection and maintenance plan that specifies: (1) Minimum visual inspection frequency of once per month for all equipment used to transfer or apply coatings, adhesives, or organic solvents. (2) An inspection schedule. (3) Methods for documenting the date and results of each inspection and any repairs that were made. (4) The timeframe between identifying the leak and making the repair, which adheres, at a minimum, to the following schedule: (i) A first attempt at repair shall be made no later than five calendar days after the leak is detected. (ii) 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 three months.	40 CFR Section 63.803(c) Inspection and Maintenance Plan
Develop an organic solvent accounting form to record: (1) The quantity and type of organic solvent used each month for washoff and cleaning. Organic solvent is defined as 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 solvent evaporates during drying and does not become a part of the dried film. (2) The number of pieces washed off and the reason for the washoff. (3) The quantity of spent solvent generated from each washoff and cleaning operation each month, and whether it is recycled onsite or disposed offsite.	40 CFR Section 63.803(d) Cleaning and Washoff Solvent Accounting System
Do not use cleaning or washoff solvents that contain any of the pollutants listed in Table 4 of 40 CFR part 63 subpart JJ, in concentrations subject to MSDS reporting as required by OSHA.	40 CFR Section 63.803(e) Chemical Composition of Cleaning and Washoff Solvents

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Do not use compounds containing more than 8.0 percent by weight of VOC for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, or metal filters, unless the spray booth is being refurbished. If the spray booth is being refurbished, that is the spray booth coating or other protective material used to cover the booth is being replaced, the affected source shall use no more than 1.0 gallon of organic solvent per booth to prepare the surface of the booth prior to applying the booth coating.	40 CFR Section 63.803(f) Spray Booth Cleaning
Use normally closed containers for storing finishing, gluing, cleaning, and washoff materials.	40 CFR Section 63.803(g) Storage Requirements
Use conventional air spray guns to apply finishing materials only under any of the following circumstances: (1) To apply finishing materials that have a VOC content no greater than 1.0 lb VOC/lb solids, as applied. (2) For touchup and repair under the following conditions: (i) The touchup and repair occurs after completion of the finishing operation (ii) 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. (3) When spray is automated, that is, the spray gun is aimed and triggered automatically, not manually. (4) When emissions from the finishing application station are directed to a control device.	40 CFR Section 63.803(h) Application Equipment Requirements
(continued from above) (5) The conventional air gun is used to apply finishing materials and the cumulative total usage of that finishing material is no more than 5.0 percent of the total gallons of finishing material used during that semiannual period. (6) 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 affected source shall demonstrate technical or economic infeasibility by submitting to the Administrator a videotape, a technical report, or other documentation that supports the affected source's claim of technical or economic infeasibility. The following criteria shall be used, either independently or in combination, to support the affected source's claim of technical or economic infeasibility:	40 CFR Section 63.803(h) cont.
(continued from above) (i) 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. (ii) The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.	40 CFR Section 63.803(h) cont.
Pump, drain or otherwise collect all organic solvent used for line and gun cleaning into a normally closed container.	40 CFR Section 63.803(i) and (j) Line Cleaning and Gun Cleaning
Control emissions from washoff operations by: (1) Using normally closed tanks for washoff. (2) Minimizing dripping by tilting or rotating the part to drain as much solvent as possible.	40 CFR Section 63.803(k) Washoff Operations
Prepare and maintain with the work practice implementation plan a formulation assessment plan that: (1) Identifies VHAP from the list presented in Table 5 of 40 CFR part 63 subpart JJ that are being used in finishing operations. (2) Establishes a baseline level of usage by the affected source, for each VHAP identified. The baseline usage level shall be the highest annual usage from 1994, 1995, or 1996, for each VHAP identified. 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.	40 CFR Section 63.803(l) Formulation Assessment Plan For Finishing Operations
(continued from above) (3) Track the annual usage of each VHAP identified by the source that is present in amounts subject to MSDS reporting as required by OSHA. (4) If, after November 1998, the annual usage of the VHAP exceeds its baseline level, then the owner or operator of the affected source shall provide a written notification to the permitting authority that describes the amount of the increase and explains the reasons for exceedance of the baseline level. Notification shall be received no later than 30 calendar days after the end of the annual period in which the usage increase occurred. The following explanations would 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: (i) The exceedance is no more than 15.0 percent above the baseline level. (ii) Usage of the VHAP is below the de minimis level presented in 40 CFR part 63 subpart JJ table 5 for that VHAP.	40 CFR Section 63.803(l) cont. 40 CFR Section 63.807(e) Reporting Requirements

TABLE A: LIMITS AND OTHER REQUIREMENTS

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(continued from above) (iii) The affected source is in compliance with its State's air toxic regulations or guidelines for the VHAP (iv) The source of the pollutant is a finishing material with a VOC content of no more than 1lb VOC/lb solids, as applied.	40 CFR Section 63.803(l) cont.
(continued from above) (5) If none of the above explanations are the reason for the increase, the owner or operator shall confer with the permitting authority 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 permitting authority and owner or operator. If there are no practical and reasonable solutions, the facility need take no further action. If there are solutions, the owner 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.	40 CFR Section 63.803(l) cont.
(continued from above) (6) If after November 1998, an affected source uses a VHAP of potential concern for which a baseline level has not been previously established, then the baseline level shall be established as the de minimis level, based on 70 year exposure levels and data provided in the proposed rulemaking pursuant to Section 112(g) of the CAA, for that pollutant. A list of VHAP of potential concern is provided in 40 CFR part 60 subpart JJ Table 6. If usage of the VHAP of potential concern exceeds the de minimis level, then the affected source shall provide an explanation to the permitting authority that documents the reason for exceedance of the de minimis level. If the explanation is not one of those listed in 40 CFR Section 63.803 (l)(4)(i) through (l)(4)(iv), the affected source shall follow the procedures established in 40 CFR Section 63.803(l)(5).	40 CFR Section 63.803(l) cont.
MONITORING AND RECORDKEEPING	hdr
Use compliant finishing materials according to the following criteria: (i) Demonstrate that each stain, sealer, and topcoat has a VHAP content of no more than 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. (ii) Demonstrate that each washcoat, basecoat, and enamel that is purchased pre-made, that is, it is not formulated onsite by thinning another finishing material, has a VHAP content of no more than 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.	40 CFR Section 63.804(a)(2) Compliance Procedures
Determination of Material Content For Emission Calculations: VOC and solids (PM/PM10) in all materials shall be determined by the Environmental Data Sheet (EDS) or the Material Safety Data Sheet (MSDS) provided by the supplier for each material used, except as specified below. If the EDS or MSDS provides a material content range, the highest number in the range shall be used in all calculations. Alternative methods approved by the MPCA may be used to determine material VOC and solids. In addition, the Commissioner reserves the right to require the Permittee to determine the VOC and solids contents of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the EDS or MSDS.	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Sections 52.21; Minn. R. 7007.0800, subp. 4
VOC-Containing Material Usage and Emissions Calculations Recordkeeping: Once each day, record the volume of each VOC-containing material used during the previous day. By the 15th day of each month: a) Calculate and record the monthly usage of each VOC-containing material; b) Calculate and record the VOC emissions for the previous calendar month, based on usage of each VOC-containing material and VOC content determined with the MSDS, EDS, or by Permittee's analysis; and c) Calculate and record the average monthly VOC emissions for the previous 12-month period (to obtain the 12-month rolling average). Record all calculations upon completion of the calculation.	Title I Condition: Recordkeeping to limit VOC emissions to less than major source levels as defined by 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/13/99

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 001

<p>Solids-Containing Material Usage and PM/PM10 Emissions Calculations Recordkeeping:</p> <p>Once each day, record the volume of each solids-containing material used during the previous day.</p> <p>By the 15th day of each month:</p> <p>a) Calculate and record the monthly usage of each solids-containing material;</p> <p>b) Calculate and record the PM/PM10 emissions for the previous calendar month based on: 1) monthly usage of each solids-containing material 2) the solids content of each material determined with the MSDS, EDS, or by Permittee's analysis and 3) assuming all solids are PM10, a 10% solids transfer efficiency to the product surface, and a 92% control efficiency of the overspray; and</p> <p>c) Calculate and record the average monthly PM/PM10 emissions for the previous 12-month period (to obtain the 12-month rolling average).</p>	<p>Title I Condition: Recordkeeping to limit PM/PM10 emissions to less than major source levels as defined by 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5</p>
<p>Maintain all files of all information required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic taped disks, or on microfiche.</p>	<p>40 CFR Section 63.806(a) 40 CFR Section 63.806(j) 40 CFR Section 63.807(a)</p>
<p>Maintain records of the certified product data sheet for each finishing material and thinner and the VHAP content, in lb VHAP/lb solids, as applied, of each finishing material.</p>	<p>40 CFR Section 63.806(b)</p>
<p>Maintain onsite the work practice implementation plan and all records associated with fulfilling the requirements of that plan, including, but not limited to:</p> <p>(1) Records demonstrating that the operator training program required is in place.</p> <p>(2) Records collected in accordance with the inspection and maintenance plan.</p> <p>(3) Records associated with the cleaning solvent accounting system.</p> <p>(4) 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.</p> <p>(5) Records associated with the formulation assessment plan.</p> <p>(6) Copies of documentation such as logs developed to demonstrate that the other provisions of the work practice implementation plan are followed.</p>	<p>40 CFR Section 63.806(e)</p>
<p>SUBMITTALS AND REPORTS</p>	<p>hdr</p>
<p>The Initial Compliance Status Report shall state that complaint stains, washcoats, sealers, topcoats, basecoats, enamels, contact adhesives, strippable spray booth coatings, and thinners, as applicable, are being used by the affected source. The report should also state that the work practice implementation plan has been developed and procedures have been established for implementing the provisions of the plan. The affected source shall maintain all other records submitted with the initial compliance report.</p>	<p>40 CFR Section 63.804(f)(2), (5), (7) and (8) 40 CFR Section 63.806(i) 40 CFR Section 63.807(b) (Initial compliance report)</p>
<p>The Semi-annual report shall contain:</p> <p>(1) A statement of 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.</p> <p>(2) A statement that compliant contact adhesives, strippable spray booth coatings, stains, washcoats, sealers, topcoats, basecoats, enamels, and thinners, as applicable, have been used each day in the semiannual reporting period, or otherwise identify each day a noncompliant contact adhesive, strippable spray booth coating, stain, washcoat, sealer, topcoat, basecoat, enamel, or coating was used, as demonstrated by records or by a sample of the coating. Each day a noncompliant material is used is a single violation of the standard.</p>	<p>40 CFR Section 63.807(c) 40 CFR Section 63.804(g)(2),(5),(7),(8) (semi-annual report)</p>
<p>(continued from above)</p> <p>(3) A statement that the practice implementation plan is being followed, or should otherwise identify the provisions of the plan that have not been implemented and each day the provisions were not implemented. During any period of time that the 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.</p> <p>(4) The report shall be signed by a responsible official of the company that owns or operates the affected source.</p> <p>The frequency of the reports required shall not be reduced from semiannually regardless of the history of the owner's or operator's compliance status. The affected source shall maintain all other records submitted with the compliance status report.</p>	<p>40 CFR Section 63.807(c) cont. 40 CFR Section 63.804(g)(2),(5),(7),(8)</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

04/13/99

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 001

Subject Item: GP 004 Dust Collection System For Production Machines venting out stack #6**Associated Items:** CE 005 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

EU 007 Frame Sander

EU 008 Drill Tubs

SV 006 Frame Sander and Drill Tube Stack

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot unless required to reduce emissions to meet the less stringent limit of either 7011.0730 or 7011.0735 (table 1 and 2, respectively).	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
CONTROL EQUIPMENT REQUIREMENTS	hdr
All exhaust from emission units must be routed to control equipment during operation.	Minn. R. 7007.0800, subp. 14
Operate and maintain control equipment to achieve a control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Minn. R. 7007.0800, subp. 14
Operate and maintain control equipment to achieve a control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency	Minn. R. 7007.0800, subp. 14
Operate and maintain control equipment according to the manufacturer's specifications.	Minn. R. 7007.0800, subp. 14
Once each operating day, the Permittee shall visually observe SV 006 during daylight hours and determine if any visible emissions are present. The Permittee shall maintain a daily written record of the visible emission inspections that states whether or not visible emissions were observed.	Minn. R. 7007.0800, subps. 4 and 5
Once each operating day, record pressure drop across the baghouse.	Minn. R. 7007.0800, subps. 4 and 5
If visible emissions are observed, or the pressure drop is out of range of the manufacturer's recommended range, during the daily inspection, the Permittee shall follow the Operation and Maintenance plan for the fabric filter and take corrective action as soon as possible. The Permittee shall keep a record of the type and date of any corrective action taken upon completion of any action.	Minn. R. 7007.0800, subps. 5 and 14
Baghouse pressure drop shall be maintained between 0.3 and 0.9 inches Hg. If the daily check of baghouse pressure drop shows that the pressure drop is out of this range, the baghouse shall be inspected for malfunction, and corrective action shall be taken to return the operation of the baghouse to proper operation. Record the results of the inspection, and the corrective action taken.	Minn. R. 7007.0800, subps. 4 and 5

TABLE B: SUBMITTALS

04/13/99

Facility Name: Norcraft Companies LLC - Cottonwood
Permit Number: 08300023 - 001

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send any application for a permit or permit amendment to:

Permit Technical Advisor
Permit Section
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Unless another person is identified in the applicable Table, send all other submittals to:

Supervisor
Compliance Determination Unit
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

04/13/99

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Computer Dispersion Modeling Protocol	due 1,096 days after Permit Issuance. This protocol will describe the proposed modeling methodology and input data, in accordance with all requirements of 40 CFR pt. 51, App. W. The modeling will be made up of both PM and PM10 emissions.	Total Facility
Computer Dispersion Modeling Results	due 1,462 days after Permit Issuance. To be submitted after the MPCA has reviewed and approved the modeling protocol.	Total Facility

TABLE B: RECURRENT SUBMITTALS

04/13/99

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Continuous Compliance Report	due 30 days after end of each calendar half-year starting 06/07/1996	GP003
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner <, both to the Commissioner, and to the U.S. EPA regional office in Chicago>. This report covers all deviations experienced during the calendar year. < The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604>	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

TECHNICAL SUPPORT DOCUMENT
For
DRAFT AIR EMISSION PERMIT NO. 08300023-001

This Technical Support Document (TSD) is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number	Facility Address (SIC Code: 2434)
Norcraft Companies, L.L.C. 67 East 2nd Street North Cottonwood, Minnesota 56229	67 East 2nd Street North Cottonwood Lyon County

1.2. Description of the facility

Norcraft Companies operates a stationary wood kitchen cabinetry manufacturing facility located in Cottonwood, Minnesota. The facility consists of five stain booths (EU-001 to EU-005) with particulate control consisting of high efficiency paint arrestor filters. EU-001, EU-002 and EU-003 have their own stack, with EU-004 and EU-005 sharing a stack. The facility also has a drying oven(EU-006) and a laminator (EU-024) with no pollution controls and their own stacks, a frame sander(EU-007) and drill tubs(EU-008) controlled by a Torrit Fabric Filter and exiting out one stack and several miscellaneous wood manufacturing machines(EU-009 through EU-023) controlled by a Pnumafil Fabric Filter and exiting out a single stack. Several small heater/makeup air type units are also on site. These units total under 20 MMBtu/hr and are fueled on natural gas. These units were determined to be insignificant and limits/requirements and will not be included in the Part 70 permit.

1.3 Description of any changes allowed with this permit issuance

No changes will be allowed in the operation of the facility with this Part 70 permit issuance.

1.4 Description of all amendments issued since the issuance of the last total facility permit and to be included in the Part 70 Permit.

Permit Number and Issuance Date	Action Authorized
1989	Cherry Stain was added to list of solvents approved for spraying.
1993	The permitted installed a new spray booth and a new drying oven.
1998	The permitted installed four additional spray guns in the Stain Spray Booth.

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

EU No.	SV No.	Emission Unit Description	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy	All HAPs tpy
001	001	Stain Spray Booth	A	A	0	0	0	C	0		
002	002	Topcoat Spray Booth	A	A	0	0	0	C	0		
003	003	Sealer Spray Booth	A	A	0	0	0	C	0		
004	004	Special Use Spray Booth	A	A	0	0	0	C	0		
005	004	Sap Stain Spray Booth	A	A	0	0	0	C	0		
006	005	Drying Oven	23.6	23.6	0	0	0	0	0		
007	006	Frame Sander	26.8	26.8	0	0	0	0	0	0	0
008	006	Drill Tubs	B	B	B	0	0	0	0	0	0
009 - 023	007	Misc. Manufacturing Machines	50.5	50.5	0	0	0	0	0	0	0
024	008	Laminator	5.8	5.8	0	0	0	0	0	0	0

A - EU001 through EU005 are limited to 11 tons/month particulate emissions to a total of <132 TPY to keep the total facility below 250 TPY.

B - EU008 emissions are included in EU007 because they emit out the same stack.

C - EU001 through EU005 are limited to 20.5 tons/month combined VOC emissions to keep the facility emissions below 250 TPY.

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential *	241	241	0	0	0	246	0	246	246

Table 2. Facility(TF) and Permit Classification

Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)		VOC, PM, PM ₁₀	SO ₂ , NO _x , CO
NAAR (list pollutant)			
Part 70 Permit Program (list pollutant)	VOC, PM, HAP, PM ₁₀		SO ₂ , NO _x , CO

* Refers to potential emissions that are less than those specified as major by 40 CFR § 52.21, 40 CFR pt. 51 Appendix S, and 40 CFR pt. 70.

2. Regulatory and/or Statutory Basis

Regulatory Overview of Facility

*EU, GRP, or SV #	Applicable Regulations	**Comments:
GRP003	40 CFR § 65, subp. JJ	National Emission Standard for Wood Furniture Manufacturing Operations
SV001 through SV008	Minn. R. 7011.0715	State Industrial Process Rule For Particulate Matter and Opacity
GRP003	Title I Condition	Limit and track VOC and Particulate Matter emissions to 20.5 tons/month and 11.0 tons/month, respectively. The purpose of these limits is to restrict total facility potential emissions to less than major source levels as defined by 40 CFR 52.21.

3. Technical Information Discussion

Compliance demonstration for Groups 2 and 4: During the public comment period, EPA commented that the source should be required to measure the pressure drops for the baghouses controlling emissions from Groups 2 and 4. The appropriate pressure drop should be determined from stack testing.

Group 2 is various woodworking machinery, EU009 - EU023. It includes saws, notchers, edge banders, and machine grooving. Group 4 consists of a sander and drill tubs. Both groups' emissions are controlled by baghouses. Both groups are vented indoors 8 months of the year.

Typically, the MPCA includes a requirement for stack testing when there is a question as to whether or not an emission unit, or group of units, can meet its emission limit. In assessing emissions from Groups 2 and 4, MPCA staff found that even worst case emission estimates were well below the applicable limits. The applicable limits are from Minnesota's Industrial Process Equipment Rule, MR 7011.0715.

The limit that applies to Group 2 is 0.071 gr/cf. Emissions are controlled by the pneumafil filter with a predicted collection efficiency of 99.96%, and a vendor guarantee of emissions less than 0.02 gr/cf. This results in predicted emissions of 0.0014 gr/cf; less than 2% of the limit.

The limit that applies to Group 4 is 0.096 gr/cf. Emissions are controlled by the torit filters, which Norcraft states in its Title V application also has a vendor guarantee of 0.02 gr/cf. That number is also much less than the emission limit. For detailed calculations of potential emissions from groups 2 and 4, please see attachments .

In response to EPA's comments, requirements were included in the permit for monitoring and recording the pressure drop of the Group's 2 and 4 baghouses.

New Source Review Synthetic Minor Limits for particulates and VOCs: Norcraft Companies, L.L.C. primarily emits VOC's, HAP's, and particulate matter. They emit these pollutants in volumes that subject them to Part 70. Norcraft wishes to limit their potential emissions of these pollutants to stay below the major source threshold of 250 tons per year for New Source Review. In order to do this Norcraft will monitor monthly usage of all stains and other VOC and particulate containing material. Norcraft does not have any VOC pollution control equipment so it is assumed that all VOC's in the material are being emitted. Norcraft has accepted a VOC limit of 20.5 tons/month which in turn will limit annual emissions to 246 tons per year. For particulate emissions Norcraft assumes that the potential to emit of EU-006 through EU-024 will be the limit set by the industrial process rule. This equates to 108.8 tons per year of particulate matter. Norcraft will limit particulate emission from EU-001 through EU-005 to 141 tons per year , enabling them to stay below the 250 ton per year major threshold. They will monitor the solids content of all topcoat material utilized in the spray booths and assume a worst case solids contact efficiency of 10 percent with the product being stained or coated. Particulate matter is being controlled from the spray booth by utilizing a Paint Arrestor Filter with a efficiency of 92 percent, according to Minn. R. 7011.0070. With these assumptions and utilizing a worst case solids content of 4.32 lb/gal solids(White AC Enamel), Norcraft will be able to calculate their particulate emissions on a monthly basis and assure that they do not emit more that 250 tons per year of particulate. The particulate emission limit set in the permit is 11 tons/month for EU-001 through EU-005. Both the VOC and Particulate limit will be federally enforceable emission limits.

Norcraft will limit operations in EU-001 through EU-005 to assure compliance with the particulate limit calculated utilizing the industrial process rule. To demonstrate compliance with this limit, Norcraft will limit coating usage to no more that the following:

Unit	Coating volume limit (gal/hr)
001	35
002	32
003	32
004 and 005	45

Once again assuming 10 percent contact with product surface and 92 percent control efficiency of filters the stain usage will assure compliance with the particulate lb/hr emission limit on a worst potential case basis. This is demonstrated in the permit with the condition that limits the number of guns in simultaneous operation in any booth at two. Each gun has a maximum flow or 15 gal/hour.

A permit condition restricting “Formulation” of basecoats, washcoats and enamels was inserted to eliminate the testing requirements of the NESHAP. “Formulation” is the adding of thinners to a material that has been labeled by the manufacturer as meeting the VHAP/solids content ratio required in the NESHAP. This addition could potentially alter the ratio and make the coating material non-compliance. If Norcraft would want to start “Formulating” topcoats at the facility, testing requirements will need to be added to the permit.

4. Conclusion

Based on the information provided by Norcraft Companies, L.L.C., the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 08300023-001 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Karl T. Corrigan, Jenny Reinertsen, Marshall Cole

Attachments:

1. Sample calculation for stain spray booth
2. Calculation of emissions from Groups 2 and 4, and supporting documentation
3. Other calculations

ATTACHMENT 1:

Example Calculation EU001 Stain Spray Booth

Demonstrates compliance with the lb/hr limitation for the industrial process rule

Flow of exhaust = 17000 scfm

PM Emission limit = 0.0764 gr/dscf from Minn. R. 7011.0730 table 2
11.1 lb/hr assuming 17000scfm

using worst case product(White AC Enamel)

4.32 lb/gal solids

10 % PM transfer to surface of product

per section 7011.0070

92 % control efficiency of HEPA filter (they note 98.1% efficiency)

Max worst case product usage to stay below 11.1 lb/hr:

$11.1 \text{ lb/hr} / ((1-.1)/(1-.92))/4.32 \text{ lb/gal} = 35.68673 \text{ gal/hr}$
to assure compliance use 35 gal/hr

Unit	Exit Flow	gr/dscf limit	lb/hr limit	gal/hr limit	Round down
EU001	17000	0.0764	11.1	35.68673	35
EU002	14900	0.08	10.2	32.79321	32
EU003	14900	0.08	10.2	32.79321	32
EU004	25000	0.0665	14.25	45.81404	45

Demonstrate compliance with the < 250 TPY limit for PM

According to the industrial process rule the following potential to emits limits are set

	Exit Flow	gr/dscf limit	lb/hr limit	lb/hr limit
SV007	18950	0.073	11.85729	51.93491
SV006	7450	0.098	6.258	27.41004
SV008	445	0.1	1.335	5.8473
SV005	6284	0.1	5.386286	23.59193
		sum		108.7842

Therefore, SV001 through SV004 must emit less than 250 tpy - 108.78 tpy or 141.22 tpy (11.75 tons/month)

Assuming they are allowed to emit 11 tons/ month this equals at worst case a coating usage of

$11 \text{ tons/month} * 2000 \text{ lb/ton} / ((1-\text{control eff})/(1-\text{transfer eff})/4.32 \text{ lbsolids/gal} =$

70730.45 gal/month

However the existing limit of 20.5 tons/month VOC limits gallons of product to

$20.5 \text{ tons/month} * 2000 \text{ lb/ton} / 7.2 \text{ lb VOC/gal} = 5694.444 \text{ gallons}$

Hence, the limit on VOC emissions is more stringent than for Particulate emissions.

ATTACHMENT 2

ATTACHMENT 3