

**AIR EMISSION PERMIT NO. 08300023-002**

**IS ISSUED TO**

**Mid Continent Cabinetry**

Mid Continent Cabinetry  
67 East 2nd Street North  
Cottonwood, Lyon County, MN 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	Permit Issuance	Action Number
Total Facility Operating Permit	6/25/98	4/13/2004	001
Major Amendment	8/6/04	See below	002

This permit authorizes the Permittee to operate and modify 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. 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 are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:** Federal; Pt 70/Limits to Avoid NSR

**Authorization to Construct and Operate (40 CFR 52.21) Issuance Date:** 11/15/2004

**Authorization to Construct and Operate (40 CFR 52.21) Effective Date:** 11/15/2004

**Final Permit Issuance Date:** 12/6/2004

**Expiration:** Upon Reissuance of Part 70 Permit (Part 70 Permit Expired 04/13/2004)  
All Title I Conditions do not expire.

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Richard J. Sandberg  
Air Quality Permit Section Manager  
Industrial Division

for Sheryl A. Corrigan  
Commissioner  
Minnesota Pollution Control Agency



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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 rules 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. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

**FACILITY DESCRIPTION:**

Mid Continent Cabinetry operates a stationary wood kitchen cabinetry manufacturing facility located in Cottonwood, Minnesota. After Amendment #002, the facility will consist of fourteen spray booths (EU 001 to EU 004, EU 028 to EU 037) with particulate control consisting of high efficiency filters. Each spray booth has its own stack. The facility also will have two drying ovens (EU 006, EU 038); a laminator (EU 024), with no controls; a fladder sander (EU 026) and drill tubs (EU 008) controlled by a Torrit Fabric Filter and exiting out one stack (SV 006); a frame sander (EU 027); and several miscellaneous wood manufacturing machines (EU 009 to EU 023) controlled by a Pnumafil Fabric Filter and exiting out a single stack (SV 007).

**AMENDMENT 002 DESCRIPTION:**

Mid Continent is proposing to install a new finish line. The new finish line will have 10 new spray booths (EU 028 to EU 037) and one new drying oven (EU 038).

This amendment also incorporates a July 2002 minor amendment. This minor amendment requested the installation of a new frame sander (EU 027). The new frame sander will be controlled by a baghouse (CE 007). In addition, Mid Continent removed its old frame sander (EU 007). An existing flatter sander's emissions will be routed into an existing baghouse (CE 005). Mid Continent also removed the sap stain spray booth (EU 005).

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 002

**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**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

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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**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 002

**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 Altendorf

EU 016 Router

EU 017 Powermatic Table Saw

EU 018 Miter Saw

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
<b>EMISSION LIMITS</b>	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.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
<b>CONTROL EQUIPMENT REQUIREMENTS</b>	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**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 002

**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
- CE 008 Split Paper + Polyester Paint Arrestor
- CE 009 Split Paper + Polyester Paint Arrestor
- CE 010 Split Paper + Polyester Paint Arrestor
- CE 011 Split Paper + Polyester Paint Arrestor
- CE 012 Split Paper + Polyester Paint Arrestor
- CE 013 Split Paper + Polyester Paint Arrestor
- CE 014 Split Paper + Polyester Paint Arrestor
- CE 015 Split Paper + Polyester Paint Arrestor
- CE 016 Split Paper + Polyester Paint Arrestor
- CE 017 Split Paper + Polyester Paint Arrestor
- EU 001 Stain Booth #1
- EU 002 Topcoat Booth #1
- EU 003 Sealer Booth #1
- EU 004 Special Use Spray Booth
- EU 024 Laminator
- EU 028 Toner Booth #1
- EU 029 Toner Booth #2
- EU 030 Stain Booth #2
- EU 031 Stain Booth #3
- EU 032 Sealer Booth #2
- EU 033 Sealer Booth #3
- EU 034 Topcoat Booth #2
- EU 035 Topcoat Booth #3
- EU 036 Glaze Booth
- EU 037 Off-Line Booth
- SV 001 Stain Booth #1
- SV 002 Topcoat Booth #1
- SV 003 Sealer Booth #1
- SV 004 Special Use Spray Booth
- SV 008 Laminator
- SV 011 Toner Booth #1
- SV 012 Toner Booth #2
- SV 013 Stain Booth #2
- SV 014 Stain Booth #3
- SV 015 Sealer Booth #2
- SV 016 Sealer Booth #3
- SV 017 Topcoat Booth #2
- SV 018 Topcoat Booth #3
- SV 019 Glaze Booth
- SV 020 Off-Line Booth

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

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What to do	Why to do it
<p>Pre-cap</p> <p>All spray booths, in GP 003, are subject to the GP 003 VOC, PM, and PM10 emission limits. If the Permittee replaces any spray booths or spray guns, adds new spray booths or spray guns, or modifies any spray booths or spray guns, such equipment is subject to these permit limits as well as all of the requirements of GP 003. Any replaced, new or modified guns must either be a high volume low pressure (HVLP) or have a transfer efficiency of 75% or greater. Any replaced, new or modified spray booth must maintain a particulate control consisting of a high efficiency filter (or equivalent) with a 92% control efficiency or greater. Replacement units are subject to the applicability provision found in 40 CFR 63.800(g).</p>	<p>Title I Condition: To limit VOC, PM, and PM10 emissions to less than major source levels as defined by 40 CFR Section 52.21</p>
<p>Pre-cap Continued:</p> <p>Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. The Permittee is not required to repeat VOC, PM, and PM10 calculations described in Minn. R. 7007.1200, subp. 2, unless required for air dispersion modeling purposes.</p> <p>A permit amendment will still be needed regardless of the emissions increase if the change will be subject to a new applicable requirement or requires revisions to the limits or monitoring and recordkeeping in this permit.</p>	<p>Title I Condition: To limit VOC, PM, and PM10 emissions to less than major source levels as defined by 40 CFR Section 52.21</p>
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 11.0 tons/month using 12-month Rolling Average combined for all GP 003 emission units.	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 11.0 tons/month using 12-month Rolling Average combined for all GP 003 emission units.	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 GP 003 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. 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 finishing operations and contact adhesives. The 1.0 lb V-HAP limit is based on the sum total of all the individual V-HAPs found in a particular finishing or adhesive material.	40 CFR Sections 63.802(a)(1) and (2) Emission Limits
Volatile Organic Compounds: less than or equal to 0.8 lb VOC/lb solids, as applied for cleaning operations strippable spray booth materials.	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, 008 - 017) 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
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

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

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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
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

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

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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
(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 1 lb VOC/lb solids, as applied.	40 CFR Section 63.803(l) cont.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 002

<p>(continued from above)</p> <p>(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.</p>	40 CFR Section 63.803(l) cont.
<p>(continued from above)</p> <p>(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).</p>	40 CFR Section 63.803(l) cont.
<b>MONITORING AND RECORDKEEPING</b>	hdr
<p>Use compliant finishing materials according to the following criteria:</p> <p>(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.</p> <p>(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.</p>	40 CFR Section 63.804(a)(2) Compliance Procedures
<p>Determination of Material Content For Emission Calculations: VOC and solids (PM/PM10) in all materials shall be determined by the Environmental Data Sheet (EDS), Certified Data Product Sheet (CDPS), or the Material Safety Data Sheet (MSDS) provided by the supplier for each material used, except as specified below. If the EDS, CDPS, or MSDS provides a material content range, the highest number in the range shall be used in all calculations.</p> <p>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, CDPS, or MSDS.</p>	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Sections 52.21; Minn. R. 7007.0800, subp. 4
<p>VOC-Containing Material Usage and Emissions Calculations Recordkeeping:</p> <p>Once each day, record the volume of each VOC-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 VOC-containing material;</p> <p>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, CPDS, EDS, or by Permittee's analysis; and</p> <p>c) Calculate and record the average monthly VOC emissions for the previous 12-month period (to obtain the 12-month rolling average).</p> <p>Record all calculations upon completion of the calculation.</p>	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
<p>Monthly Calculation -- VOC Emissions.</p> <p>The Permittee shall calculate VOC emissions using the following equations:</p> $\text{VOC (tons/month)} = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ <p>where:</p> <p>V = total VOC used in tons/month;</p> <p>A# = amount of each VOC containing material used, in tons/month;</p> <p>B# = weight percent VOC in A#, as a fraction.</p>	Minn. R. 7007.0800, subp. 4 and 5

# TABLE A: LIMITS AND OTHER REQUIREMENTS

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 002

<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;  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, CPDS, or by Permittee's analysis and 3) assuming all solids are PM10, a 75% solids transfer efficiency to the product surface, and a 92% control efficiency of the overspray; and  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>Monthly Calculation -- PM Emissions.</p> <p>The Permittee shall calculate PM emissions from the spray booths using the following equations:</p> $PM \text{ (tons/month)} = S(1-CE)(1-TE)$ $S = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ <p>Where:  S = total solids used in tons/month;  CE = 0.736, overall control efficiency, as a fraction;  TE = .75, transfer efficiency, as a fraction;  A# = amount of each solids containing material sprayed, in tons/month; and,  B# = weight percent solids in A#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly Calculation -- PM10 Emissions.</p> <p>The Permittee shall calculate PM10 emissions from the spray booths using the following equations:</p> $PM \text{ (tons/month)} = S(1-CE)(1-TE)$ $S = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ <p>Where:  S = total solids used in tons/month;  CE = 0.736, overall control efficiency, as a fraction;  TE = .75, transfer efficiency, as a fraction;  A# = amount of each solids containing material sprayed, in tons/month; and,  B# = weight percent solids in A#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 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, contact adhesive, 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> <ol style="list-style-type: none"> <li>(1) Records demonstrating that the operator training program required is in place.</li> <li>(2) Records collected in accordance with the inspection and maintenance plan.</li> <li>(3) Records associated with the cleaning solvent accounting system.</li> <li>(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.</li> <li>(5) Records associated with the formulation assessment plan.</li> <li>(6) Copies of documentation such as logs developed to demonstrate that the other provisions of the work practice implementation plan are followed.</li> </ol>	<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>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

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<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**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 002

**Subject Item: GP 004 Dust Collection System For Production Machines venting out stacks #6 and #10****Associated Items:** CE 005 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 007 Fabric Filter - Low Temperature, i.e., T&lt;180 Degrees F

EU 008 Drill Tubs

EU 026 Fladder Sander

EU 027 Butfering Frame Sander

SV 006 Fladder Sander and Drill Tubs

SV 010 Butfering Frame Sander

What to do	Why to do it
<b>EMISSION LIMITS</b> (applies to each individual stack vent)	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.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
<b>CONTROL EQUIPMENT REQUIREMENTS</b> (applies to each individual control equipment)	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 each stack 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**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 002

**Subject Item:** GP 005 Ovens**Associated Items:** EU 006 Drying Oven #1

EU 038 Drying Oven #2

SV 005 Drying Oven #1

SV 021 Drying Oven #2

What to do	Why to do it
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity. This requirement applies to each individual stack vent.	Minn. R. 7011.0610, subp. 1
Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. This requirement applies to each individual stack vent.	Minn. R. 7011.0610, subp. 1

## TABLE B: SUBMITTALS

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood  
Permit Number: 08300023 - 002

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**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 002

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 1096 days after 04/13/1999 . 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 90 days after Permit Issuance (#002). The Permittee shall resubmit a final dispersion modeling report indicating that there are no predicted exceedances of an ambient standard. After the 90 days, if the Permittee is unable to make this demonstration of no predicted exceedances, the Permittee shall submit a compliance schedule, detailing a course of action (with dates), to achieve no predicted exceedances of an ambient standard.	Total Facility

**TABLE B: RECURRENT SUBMITTALS**

12/06/04

Facility Name: Norcraft Companies LLC - Cottonwood

Permit Number: 08300023 - 002

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 starting 04/13/1999 . 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
Annual Report	due 30 days after end of each calendar year following Permit Issuance. The Permittee shall submit an annual report by January 30th that describes the changes made at the facility during the previous calendar year using the latest MPCA application forms. The report shall include the emission unit, stack/vent, group, and control equipment data for any new or replaced units or control devices. The report shall document the VOC, PM, and PM10 12-month rolling average calculations for the previous calendar year. The report shall be submitted with the annual Compliance Certification listed in Table B. As part of the Annual Report, the Permittee shall verify and certify that the facility has maintained minor source status for New Source Review.	Total Facility
Compliance Certification	due 31 days after end of each calendar year starting 04/13/1999 (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year starting 04/13/1999 (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**DRAFT/PROPOSED AIR EMISSION PERMIT NO. 08300023-002**

This technical support document is intended for all parties interested in the draft/proposed permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp.1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the draft/proposed permit.

**1. General Information**

**1.1. Applicant and Stationary Source Location:**

Applicant/Address	Stationary Source/Address (SIC Code: 2434)
67 East 2nd Street North Cottonwood Lyon County 56229	67 East 2nd Street North Cottonwood Lyon County 56229
Contact: Robert Wilson Phone: (507) 423-5492	

**1.2. Description of the Facility Permit Action**

Mid Continent Cabinetry operates a stationary wood kitchen cabinetry manufacturing facility located in Cottonwood, Minnesota. After Amendment #002, the facility will consist of fourteen spray booths (EU 001 to EU 004, EU 028 to EU 037) with particulate control consisting of high efficiency filters. Each spray booth has its own stack. The facility also will have two drying ovens (EU 006, EU 038); a laminator (EU 024), with no controls; a fladder sander (EU 026) and drill tubs (EU 008) controlled by a Torrit Fabric Filter and exiting out one stack (SV 006); a frame sander (EU 027); and several miscellaneous wood manufacturing machines (EU 009 to EU 023) controlled by a Pnumafil Fabric Filter and exiting out a single stack (SV 007). Several small heater/makeup air type units are also on site. During #001 issuance, these units total under 20 MMBtu/hr and are fueled on natural gas. These units were determined to be insignificant and were not included in the Part 70 permit.

The primary pollutants of concern from the existing facility are VOCs, PM/PM<sub>10</sub>, and HAPs.

**1.3 Description of the Activities Allowed by this Permit Action**

Mid Continent is proposing to install a new finish line. The new finish line will have 10 new spray booths (EU 028 to EU 037) and one new drying oven (EU 038). The primary pollutants of concern from the new line are VOCs, PM/PM<sub>10</sub>, and HAPs.

Mid Continent currently is a synthetic minor source for PSD (246 tpy VOC). Mid Continent proposes to retain the existing 246 tpy VOC limit. In order to accommodate the proposed new finish line into the existing permit limits, Mid Continent will be changing its highest use coating material, a topcoat, to a low VOC formula topcoat. In 2003, this topcoat usage was about 45,605 gallons out of the about 67,846 gallons, of total materials, used facility-wide.

This amendment also combines a July 2002 minor amendment. This minor amendment requested the installation of a new frame sander (EU 027). The new frame sander will be controlled by a baghouse (CE 007). In addition, Mid Continent removed its old frame sander (EU 007). An existing flatter sander's emissions will be routed into an existing baghouse (CE 005). Mid Continent also removed the sap stain spray booth (EU 005).

The existing VOC, PM, and PM10 limits remain in place. Accordingly, there are no PSD thresholds triggered. The existing wood manufacturing NESHAP remains in place. Hence, this is a Minnesota major amendment. Minn. R. 7007.1500.

#### 1.4 Description of all amendments issued

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.
1999/#001	Total facility operating permit issued.
2004/#002	Major amendment for new finishing line combined with 2002 minor amendment application.

#### Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

EU No.	SV No.	Emission Unit Description	PM tpy	PM <sub>10</sub> tpy	SO <sub>2</sub> tpy	NO <sub>x</sub> tpy	CO Tpy	VOC tpy	Pb tpy	All HAPs tpy
001	001	Stain Spray Booth	A	A	0	0	0	C	0	C
002	002	Topcoat Spray	A	A	0	0	0	C	0	C
003	003	Sealer Spray Booth	A	A	0	0	0	C	0	C
004	004	Special Use Spray Booth	A	A	0	0	0	C	0	C
005	004	Removed	-	-	-	-	-	-	-	

006	005	Drying Oven	.06	.06	.005	.83	.7	.046	-	
007	006	Removed	-	-	-	-	-	-	-	-
008	006	Drill Tubs	B	B	0	0	0	0	0	0
009 - 023	007	Misc. Manufacturing Machines	50.5	50.5	0	0	0	0	0	0
024	008	Laminator	5.8	5.8	0	0	0	0	0	0
025		Cleaning and Thinning*						C		
026	006	Fladder Sander	5.59	5.59						
027	010	Frame Sander	6.53	6.53						
028 - 037	011 - 020	Spray Booths	A	A	0	0	0	0	0	C
038	021	Drying Oven #2	.095	.095	.007	1.25	1.05	.069	-	

A – EU 001 to EU 004 and EU 028 to EU037 are limited to 11 tons/month particulate emissions.

B – EU 008 emissions are included in EU 006 because they emit out the same stack.

C – EU 001 to EU 004 and EU 028 to EU 037 are limited to 20.5 tons/month combined VOC emissions to keep the facility emissions below 250 TPY.

\* Emission Unit created by emission inventory staff. These emissions are included in the VOC cap.

	PM Tpy	PM <sub>10</sub> tpy	SO <sub>2</sub> tpy	NO <sub>x</sub> tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential	200.6	200.6	0.01	2.08	1.75	246	-	246	246

It is assumed that all HAPs are VOCs. The VOC caps both the single and total HAPs to 246 tpy. It is also noted that the Volatile HAPs are also limited by the wood furniture manufacturing NESHA-Table 3. Not all VOCs are V-HAPs.

#### **1.4. Facility Emissions:**

The new finished line will consist of 10 new spray booths and one new drying oven. The existing PM, PM<sub>10</sub>, and VOC limits will remain unchanged. There will be an increase in actual emissions for these pollutants. There will also be emissions from the new natural gas 3 MMBtu/hr drying oven.

**Table 3. Total Facility Potential to Emit Summary**

	PM tpy	PM <sub>10</sub> tpy	SO <sub>2</sub> Tpy	NO <sub>x</sub> tpy	CO tpy	VOC tpy	All HAPs tpy
Total Facility Limited Potential Emissions (before 002)	193.95 <sup>1</sup>	193.95 <sup>1</sup>	0.005	0.83	0.7	246 <sup>1</sup>	246 <sup>1</sup>
Total Facility Limited Potential Emissions (after 002)	200.6 <sup>1</sup>	200.6 <sup>1</sup>	0.01	2.08	1.75	246 <sup>1</sup>	246 <sup>1</sup>
Total Facility Actual Emissions (2003)	18.01	11.87	-	0.61	0.51	175.93	69.95 <sup>2</sup>
Total Facility Estimated Actual Emissions After 002	22.24	17.23	0.01	1.00	0.84	227.41	64.32 <sup>3</sup>

<sup>1</sup> VOC, PM, PM<sub>10</sub> emissions are limited in GP 003

<sup>2</sup> based on 2003 topcoat formulation (higher VOC content) for the highest usage coating

<sup>3</sup> based on new topcoat formula (lower VOC content) for the highest usage coating

**Table 4. Facility Classification**

<b>Classification (put x in appropriate box)</b>	<b>Major/Affected Source</b>	<b>*Synthetic Minor</b>	<b>*Minor</b>
PSD		VOC, PM, PM <sub>10</sub>	SO <sub>2</sub> , NO <sub>x</sub> , CO
Part 70 Permit Program	VOC, PM, HAP, PM <sub>10</sub>		SO <sub>2</sub> , NO <sub>x</sub> , CO
Part 63 NESHAP (wood furniture manufacturing)	HAP		

\* 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**

### New Source Review

The facility is an existing non-major source under New Source Review regulations. No changes are authorized by this permit.



### Part 70 Permit Program

The facility remains a major source under the Part 70 permit program.

### New Source Performance Standards (NSPS)

There are no New Source Performance Standards applicable to the operations at this facility.

### National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility remains a major source under 40 CFR pt. 63. It remains subject to the wood furniture manufacturing NESHAP.

### Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.0610 Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment

**Table 5. Regulatory Overview of Units Affected by the Modification/Permit Amendment**

<b>*EU, GRP, or SV #</b>	<b>Applicable Regulations</b>	<b>**Comments:</b>
GP 003	40 CFR pt. 63, subp. JJ	National Emission Standards for Hazardous Air Pollutants from Wood Furniture Manufacturing Operations. This is an existing source under this rule using compliant coatings.
GP 002, 003, and 004	Minn. R. 7011.0715	Standards of Performance for Pre 1969 Industrial Process Equipment.
GP 005	Minn. R. 7011.0610	Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
GP 003	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

- 1) A number of changes were made in the Delta emission data. First of all, the spray gun emissions were re-assigned to GP 003, not GP 002. It was assumed that all HAPs are VOCs. Hence, the individual HAP can not exceed the 246 tpy VOC limit.
- 2) The drying oven was taken out of GP 003, as part of this amendment. A new group (GP 005) was created for the ovens.
- 3) Mid Continent currently is a synthetic minor source for PSD (246 tpy VOC). Mid Continent proposes to retain the existing 246 tpy VOC limit. In order to accommodate the proposed new finish line with the existing permit limits, Mid Continent will be changing its highest use coating material, a topcoat, to a low VOC formula topcoat. In 2003, this topcoat usage was about 45,605 gallons out of the about 67,846 gallons, of total materials, used facility-wide. The properties of the old and new topcoat are:

New top coat: Density 7.89 lb/gal; total VOCs 3.16 lb/gal; total solids 3.46 lb/gal. The new Low VOC Resistovar Topcoat's remaining material is not considered a VOC or part of the solids makeup. This corresponds with the MSDS information stating a content of 20 – 25% of Dimethyl Ketone (CAS# 67-64-1, a.k.a. Acetone). It is noted that for new topcoat that most of HAPs percent weight will decrease. A previously not used HAP (ethylene glycol monopropyl ether), however, will be included in the new formulation.

Old topcoat: Density 8.02 lb/gal; total solids 3.33 lb/gal; total volatiles 4.76 lb/gal.

Hence, for the highest usage topcoat, the VOC emissions will decrease by 1.60 lb/gal.

- 4) It is noted that in August 2004, EPA proposed delisting methyl ethyl ketone (MEK) as a HAP. Currently, this proposal has not been finalized. Accordingly, MEK is treated as a HAP in this amendment.
- 5) PM/PM<sub>10</sub> emission calculations follow for the new frame sander and fladder sander. The fladder sander (EU 026) and the drill tubs (EU 008) emit into CE 005. The worst case scenario, with the fladder sander, uses all of the air flow from the fladder sander and zero air flow from the drill tubs. Normally, there is only a small air flow from the drill tubs. Frame sander (EU 027) emits into CE 007. The Permittee provided a vendor guarantee emission rate of 0.02 gr/dscf for the baghouses.

$0.02 \text{ gr/dscf} \times 8,700 \text{ ft}^3/\text{min} \times 60 \text{ min/hr} \times 8760 \text{ hr/yr} \times 1 \text{ pound}/7000 \text{ grain} \times 1 \text{ ton}/2000 \text{ lb} = 6.53 \text{ ton/yr.}$

$0.02 \text{ gr/dscf} \times 7,450 \text{ ft}^3/\text{min} \times 60 \text{ min/hr} \times 8760 \text{ hr/yr} \times 1 \text{ pound}/7000 \text{ grain} \times 1 \text{ ton}/2000 \text{ lb} = 5.59 \text{ ton/yr.}$

A less conservative emission factor may be available. Given the time restraints of this amendment issuance, less conservative emission factors can be reviewed as part of the Operating permit reissuance.

- 6) With the new line expansion, there will be an increased usage of formaldehyde. In the final permit cover letter, Mid Continent was reminded of the wood manufacturing NESHAP provisions pertaining to the increased use of formaldehyde. This provision is specified in the permit as well as in 40 CFR Section 63.803(l).
- 7) Future actual emissions = 2003 actual emissions x 1.3151 (addition of parts now being finished at a different plant) x 1.25 (25% production increase)
- 8) The Wood Furniture NESHAP – Table 3 provides limits depending on whether a facility is “existing” or “new.” This particular NESHAP considers the entire facility as the affected source. The spray booths, in themselves, are not the affected source. Because the facility is already deemed to be “existing”, the addition of the new spray booths is considered to maintain the “existing” status. EPA has provided that the addition of a new line to an existing plant is treated as existing. In addition, under Part 63.800(g), reconstructed affected sources are to be treated as “new.” Under Part 63, “reconstruction” is defined as “the replacement of components of an affected or a previously unaffected stationary source to such an extent that: (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source.” In this case, the Permittee is not replacing components. The Permittee is adding new units. Hence, the definition of reconstruction is not applicable. Accordingly, the “existing” NESHAP limits are applied to this expansion.
- 9) A pre-cap provision as well as VOC, PM, and PM<sub>10</sub> equations were added to GP 003. The intent of pre-cap is to allow the replacement, addition, and modification of spray booths and guns without requiring major amendments. Minor and moderate amendments may still be required.
- 10) The PM/PM<sub>10</sub> 11 tons/month limit was an existing GP 003 limit. The Permit #001 limit was based on the sum total of non-GP 003 emission units (109 tpy sum) plus the 11 ton/month times 12 months (132 tpy) for a total of 241 tpy (not exceed 250 tpy). Errors were made in the PM/PM<sub>10</sub> emissions from the drying oven #1 and sander. These errors are corrected in this amendment. Hence, the PM/PM<sub>10</sub> limited emissions is reduced from 241 to 200.6 tpy.
- 11) PM, PM<sub>10</sub>, and VOC equations were added to the permit.
- 12) The Permittee previously submitted modeling results that showed an exceedance of the PM<sub>10</sub> ambient standard. This permit allows a 90 day extension for the Permittee to demonstrate predicted compliance with the PM<sub>10</sub> ambient standard. If the Permittee cannot do so within 90 days, a compliance schedule, with actions and dates, to correct the predicted exceedances is required.

13) Insignificant activities were not addressed in #002. Insignificant activities will be reviewed during the operating permit reissuance.

14) It is noted that all existing and all new spray guns will be HVLPs.

### **3.1 Calculations of Potential to Emit**

For this amendment #002, the limited VOC, PM, and PM<sub>10</sub> remains unchanged. For pre-cap provisions, calculations are typically not required in such situations. The unrestricted HAP PTEs for GP 003 changed due to this amendment. These unrestricted HAP PTEs were updated in Delta. This includes both the existing and new spray booths. All spray guns facility-wide can, theoretically, use any topcoat material. This is unlikely to occur due to physical configuration of the product lines and spray booths. However, it is a possibility. Accordingly, the PTE from spray guns was based on the worst specific pollutant from any material used in any gun. This was then multiplied by the spray gun capacity, as summed, from all the facility-wide spray guns.

The Permittee's HAP calculations are found in the attachment.

### **3.2 Periodic Monitoring**

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the MPCA considers the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

Table 4 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

**Table 6. Periodic Monitoring**

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
Spray Booths: GP 003	$\text{VOC} \leq 20.5$ tons per month rolling average (limit to avoid NSR)	Recordkeeping: Daily records of coating usage; On-going MSDS records of coating contents; Monthly calculations of emissions.	Usage records are generated on a daily basis.
Spray Booths: GP 003	$\text{PM} \leq 11$ ton per month using a 12-month rolling average	Recordkeeping: Daily records of coating usage; On-going MSDS records of coating contents; Monthly calculations of emissions.	Usage records are generated on a daily basis.
Spray Booths: GP 003	$\text{PM}_{10} \leq 11$ ton per month using a 12-month rolling average	Recordkeeping: Daily records of coating usage; On-going MSDS records of coating contents; Monthly calculations of emissions.	Usage records are generated on a daily basis.
Spray Booths: GP 003	$\text{PM:} \leq 0.30$ gr/dscf, each booth, unless required to reduce emissions to meet the less stringent limit of either 7011.0730 or 7011.0735.	None	With the use of a HVLP spray gun (75%) transfer efficiency and 92% spray booth filter control efficiency, it is unlikely that the conservative industrial equipment process rule would be violated.

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
	Opacity: $\leq 20$ % (Minn. R. 7011.0715)		
Direct Heating Equipment GP 005	PM: $\leq 0.30$ gr/dscf, each booth, unless required to reduce emissions to meet the less stringent limit of either 7011.0730 or 7011.0735.  Opacity: $\leq 20$ % with exceptions (Minn. R. 7011.0610)	None	All units use natural gas; therefore, the likelihood of violating either of the emission limits is very small.
GP 002; GP 004	PM: $\leq 0.30$ gr/dscf, each booth, unless required to reduce emissions to meet the less stringent limit of either 7011.0730 or 7011.0735.  Opacity: $\leq 20$ % (Minn. R. 7011.0715)	Daily visible emission checks and daily pressure drop readings.	

### **3.3 Insignificant Activities**

No insignificant activities were included in this amendment.

### **3.4 Comments Received**

Document the official start/end dates of EPA's review period if they are different than the default (i.e., start of the notice + 45 days) and explain why the EPA review period is different.

Document whether or not EPA agreed that we could go ahead and issue the permit prior to the end of their official review period by stating how and when this was communicated (or by attaching e-mails/letters).

Public Notice Period: <start date> - <end date>

EPA 45-day Review Period: <start date> - <end date>

If comments were received during the public notice period from the public or if comments are received from EPA, they should be described briefly here, as well as any changes made to the permit as a result of the comments. Generally, the comment letters should also be provided as attachments to the TSD.

Comments were <not> received from the public during the public notice period. <The comments received did <not> include adverse comments on any applicable requirements of the permit. Changes to the permit were <not> made as a result of the comments. Provide summary of changes. >

<The revised permit was sent to EPA for their 45-day review on <date>.> Comments were <not> received from EPA during their review period. Changes to the permit were <not> made as a result of the comments. Provide summary of changes. >

### **4. Conclusion**

Based on the information provided by Mid Continent Cabinetry, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 08300023-002 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Bruce Braaten (permit writer/engineer)  
Sarah Kilgriff (enforcement)  
Dennis Becker (dispersion modeling)  
Craig Thorstenson (peer reviewer)

Attachments: Permittee's HAP Calculations