AIR EMISSION PERMIT NO. 05300417- 001

IS ISSUED TO

LEEF SERVICES, INC.
212 James Avenue North
Minneapolis, Hennepin County, MN 55405-1700

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 Application Type	Application Date (s)
Total Facility Operating Permit-Title V Administrative Amendment	December 15, 1995 September 27, 2006

This permit authorizes the Permittee to operate and construct 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: State; Limits to Avoid Pt 70/Limits to Avoid NSR and NESHAPs

Issue Date: February 23, 2007

Expiration: February 23, 2012
All Title I Conditions do not expire.

Richard J. Sandberg, Manager
Air Quality Permits Section
Industrial Division

for Brad Moore
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:

Leef Services, Inc. owns and operates an industrial laundering facility in the city of Minneapolis, Hennepin County, in Minnesota. Rugs, garments, mops, linens, and wiping towels are among the types of products cleaned at the facility. Cleaning operations are primarily water washing; however, a small amount of products are dry cleaned using non-hazardous air pollutant solvents. Drying of water-washed products are performed primarily in natural gas/propane fired dryers. There are also additional make-up heaters and a boiler for heating purposes.

The primary air pollutants from the facility are Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs). The permit restricts the emissions of the facility such than that the facility is classified as a non-major under federal New Source Review regulations (40 CFR § 52.21) and under federal Operating Program (40 CFR pt. 70). The permit also restricts HAPs emissions such that the facility is an area source under the National Emissions Standards for Hazardous Air Pollutants (NESHAPs, 40 CFR pt. 63). In addition, as part of the permitting process an Air Emission Risk Analysis (AERA) was submitted by Leef Services. The MPCA reviewed and approved the AERA.

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Leef Services Inc

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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
A. SOURCE-SPECIFIC REQUIREMENTS	hdr
This permit establishes limits on the facility to keep it non-major source under 40 CFR Section 52.21, 40 CFR Section 70.2 and 40 CFR Section 63.2. The Permittee cannot make any change at the source that would make the source a major source under New Source Review, under 40 CFR Section 70.2 or under 40 CFR Section 63.2 until a permit amendment has been issued. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2, 40 CFR Section 63.2 and Minn. R. 7007.0200
Volatile Organic Compounds: less than or equal to 70.0 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2, 40 CFR Section 63.2 and Minn. R. 7007.0200
Process Throughput: less than or equal to 1000000 lbs/year using 12-month Rolling Sum of soiled printer towels washed and dried based on a clean, dry weight. Limit based on the AERA. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7007.0800, subp. 2
Process Throughput: less than or equal to 850,000 lbs/year using 12-month Rolling Sum for soiled general industry towels washed and dried based on a clean, dry weight. Limit based on the AERA. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7007.0800, subp. 2
HAP-Single: less than or equal to 6.1 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period. All emission units, except those deemed to be insignificant activities under Minn. R. 7007.1300 and fuel combustion sources shall be included in this calculation. HAP-containing material shall be determined by performance test.	Title I Condition: To avoid major source classification under 40 CFR Section 63.2; To avoid major source classification under 40 CFR Section 70.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2; Minn. Stat. 116.07, subd. 4a(a)
HAPs - Total: less than or equal to 13.2 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period. All emission units, except those deemed to be insignificant activities under Minn. R. 7007.1300 and fuel combustion sources shall be included in this calculation. HAP-containing material shall be determined by performance test.	Title I Condition: To avoid major source classification under 40 CFR Section 63.2; To avoid major source classification under 40 CFR Section 70.2; Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 2; Minn. Stat. 116.07, subd. 4a(a)
The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request by the MPCA.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080.
Parameters Used in Modeling: The parameters used in the modeling performed for determining emission and/or operational limits are listed in Appendix C of this permit. If the Permittee intends to change any of these parameters, the Permittee must submit the revised parameters to the Commissioner and receive written approval before making any changes. The revised parameters information submittal must include, but is not limited to: the locations, heights and diameters of the stacks; locations and dimensions of nearby buildings; velocity and temperatures of the gases emitted; and emission rates. The plume dispersion characteristics due to the parameters revisions must equal or exceed the dispersion characteristics modeled for this permit, and the Permittee shall demonstrate this in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily by made about the dispersion, the Permittee must remodel.	Minn. Stat. Section 116.0, subds. 4a & 9; Minn. R. 7007.0100, supbs. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2, & 4; Minn. R. 7009.0010-7009.0080

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Parameters Used in Modeling (continued): For changes that do not involve an increase in an emission rate and that do not require a permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter. For changes involving increases in emission rates and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter. For changes involving increases in emission rates and that requires a permit amendment other than a minor amendment, the proposal must be submitted prior to or with the permit amendment application. This is a state only requirement and is not enforceable by U. S. EPA Administrator or citizens under the Clean Air Act.	Minn. Stat. Section 116.0, subds. 4a & 9; Minn. R. 7007.0100, supbs. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2, & 4; Minn. R. 7009.0010-7009.0080
B. SOURCE-SPECIFIC RECORDKEEPING REQUIREMENTS	hdr
Daily Recordkeeping: On each day of operation, the Permittee shall calculate, record and maintain the total number of soiled printer and general industry towels being laundered.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Monthly Recordkeeping: By the 15th day of the month, the Permittee shall calculate and record the following using the formulas specified in this permit: 1) The VOC, total and individual HAP emissions for the previous month using the formulas specified in this permit; 2) The 12-month rolling sum for VOC, total and individual HAP emissions for the previous 12 month period by summing the monthly emissions data for the previous 12 months.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Monthly Calculation - VOC Emissions: The Permittee shall calculate and record the total VOC emissions using the following equation below: Total VOC emissions (tons/month) = VOC Washer + VOC Dryer VOCtotal= [[X(EFwprinter)+Y(EFwGI)] + [X (EFdprinter)+ Y(EFdGI)]]/2000-W where X = Printer Towel Throughput (lbs on a clean, dry weight basis) Y = General Industry (GI) Towel Throughput (lbs on a clean, dry weight basis) EFwprinter = Emission factor for washing printer towels (0.071 lbsVOC/lb towel processed) EFwGI = Emission factor for washing general industrial towels for washer (0.0126 lbsVOC/lb towel processed) EFdprinter = Emission factor for drying printer towels (0.081 lbsVOC/lb towel processed) EFdGI= Emission factor for drying general industrial towels (0.0134 lbsVOC/lb towel processed) W= Waste Credit The Permittee shall use the above MPCA-approved emission factors as determined by performance test dated May 2003 or the more recent MPCA-approved emission factors.	Minn. R. 7007.0800, subps. 4 and 5
Monthly Calculation - HAP emissions: The Permittee shall maintain records and calculate the individual HAP and total HAP emissions for the previous month from the applicable emission units except insignificant activities under Minn. R. 7007.1300 and fuel combustion sources. The emission shall be calculated using the following equation: HAP Emissions (tons/month) = H/2000-W H = (A1xEF1)+ (A2xEF2) + (A3xEF3)+..... W = (B1 x EF1) + (B2xEF2) + (B3 xEF3) + ...	Minn. R. 7007.0800, subps. 4 and 5
where H = the amount of each pollutant (either each individual HAP or total HAP, in lbs/month A# =Towel Throughput(printer, general industrial, in lbs clean, dry weight basis/month EF# = Emission Factor for each individual HAP, in lb HAP/lb towel B# = amount of each HAP containing waste material shipped, in lb HAP/lb towel EF# = Emission Factor for each individual HAP, in lb HAP/lb towel The Permittee shall use the following MPCA-approved emission factors per performance test dated May 2003 or the more recent MPCA-approved performance test. See Appendix D.	CONTINUED Minn. R. 7007.0800, subps. 4 and 5

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Wastewater Discharge Analysis: The Permittee shall maintain records on-site of its quarterly wastewater discharge reports to the Metropolitan Council Environmental Services (MCES), including supporting analysis that charaterizes and quantifies the discharge pollutants from cleaning soiled products in accordance with their industrial wastewater discharge permit.	Minn. R. 7007.0800, subps. 4 and 5
Waste Credit: If the Permittee elects to obtain credit for HAPs, and /or VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, and/or total and individual HAP content for each credited shipment. 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, total HAP, and each individual HAP, excluding water. 2) The Permittee may use supplier data for raw materials to determine the VOC, and total and individual HAP contents of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC, total and individual HAP content of any of the materials.	Minn. R. 7007.0800, subps. 4 and 5
C. OPERATIONAL REQUIREMENTS	hdr
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
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and shall include a preventative maintenance program for that equipment, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
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
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
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
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 enforceable by the EPA Administrator or citizens under the Clean Air Act.	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
C. MONITORING REQUIREMENTS	hdr
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)
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)
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)
D. PERFORMANCE TESTING REQUIREMENTS	hdr
Performance Test for a Change in Wastewater Discharge Characterization: The Permittee shall perform new stack tests to determine emission factors for VOCs and HAPs if the Permittee's wastewater discharge characterization trends to a significant change in individual toxic pollutant discharges and increases the net wastewater discharge of toxic pollutants. The Permittee shall following the performance test procedures in Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2.	Minn. R. 7007.0800, subp. 6; Minn. R. 7017.2020, subp. 1

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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
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
Performance Test Notifications and Submittals: Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements. Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2
E. RECORDKEEPING	hdr
Recordkeeping: 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)
Recordkeeping: 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)
F. REPORTING/SUBMITTALS	hdr
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
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)

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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)
Emission 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.	Minn. R. 7019.3000 through Minn. R. 7019.3010
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

Facility Name: Leef Services Inc

Permit Number: 05300417 - 001

Subject Item: **GP 001 Printer Towel Washing Machines**

Associated Items: EU 008 800# Washer 1 W-9a

EU 009 800# Washer 3 W-9b

EU 010 800# Washer 5 W-9c

SV 008 Main Washer Stack

What to do	Why to do it
OPERATING SCEANARIO FOR WASHERS NOS. 1, 3 and 5 [EU 008, 009 and 010]	Minn. R. 7007.0800, subp. 11
A. POLLUTANT LIMITS	hdr
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot using 3-hour Rolling Average 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. (Limit applies to each washer.)	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity (Limit applies to each washer.)	Minn. R. 7011.0715, subp. 1(B)
B. OTHER LIMITS AND REQUIREMENTS	hdr
Towels Restriction: The Permittee shall wash printer towels in the following washers only (EU Nos. 008, 009, and 010). The Permittee shall also wash printer towels in EU 018 and EU 019 (No. 2 and No. 4) upon completion of ducting the exhaust from any of these washers to SV 008.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
C. MONITORING REQUIREMENTS	hdr
Temperature: less than or equal to 140 degrees F as determined during the May 5-9, 2003, performance test, unless a new maximum is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Monitoring Equipment: The Permittee shall install and maintain the thermocouples to conduct temperature monitoring as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored washer is in operation.	Minn. R. 7007.0800, subp. 4
Weekly Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating week to verify that it is working and recording properly. The Permittee shall maintain a written record of the weekly verifications.	Minn. R. 7007.0800, subps. 4 and 5
D. RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping of Temperature. The Permittee shall record the time and date of each temperature reading and whether or not the recorded temperature was within +/- 5 degrees Fahrenheit.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Thermocouple Monitoring: The Permittee shall maintain and operate a thermocouple monitoring temperature of the washers. The monitoring device shall have a margin of error less than the greater of +/- 5.0 degrees Fahrenheit.	Minn. R. 7007.0800, subp. 4 and 5
Corrective Actions: If the temperature is above the maximum specified by this permit or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted maximum and/or include completion of necessary repairs identified during the inspection, as applicable. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subps. 4, 5 and 14
E. REPORTING REQUIREMENTS (SEE TABLE B)	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Leef Services Inc

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Subject Item: **GP 002 Solvent Recovery Dryers**

Associated Items: EU 012 Solvent Recovery Dryer 1 D-12a

EU 013 Solvent Recovery Dryer 2 D-12b

EU 014 Solvent Recovery Dryer 3 D-12c

EU 015 Solvent Recovery Dryer 4 D-12d

SV 010 Dry Clean Dryer 1D-12a

SV 011 Dry Clean Dryer 2 D-12b

SV 012 Dry Clean Dryer 3 D-12c

SV 013 Dry Clean Dryer 4 D-12d

What to do	Why to do it
A. OPERATIONAL REQUIREMENTS	hdr
Liquid Flow Rate: less than 0.013 gallons/minute using 1-minute Average [0.05 liter per minute]	40 CFR Section 60.624
Solvent Recovery Dryer: The Permittee shall install a solvent recovery dryer that recovers greater than 92% of petroleum solvent by weight.	Minn. R. 7007.0800, subps. 2 and 14
B. MONITORING REQUIREMENTS	hdr
Operation and Maintenance of the Solvent Recovery Dryers: The Permittee shall operate and maintain the solvent recovery dryers according to the manufacturer's specifications.	40 CFR Section 60.622; Minn. R. 7011.3250
For each manufactured petroleum solvent dryer, the dryer shall include leak inspection and leak repair cycle information the operating manual and on a clearly visible label. The information should state: To protect against fire hazard, loss of valuable solvents, and emissions of solvent to the atmosphere, periodic inspection of this equipment for evidence of leaks and prompt repair of any leaks is recommended. The U.S. Environmental Protection Agency recommends that the equipment be inspected every 15 days and all vapor or liquid leaks be repaired within the subsequent 15 day period.	40 CFR Section 60.622; Minn. R. 7011.3250
Leak Detection: The Permittee shall check the equipment for leaks once every 15 days using audible/visual/olfactory (AVO) leak detection.	Minn. R. 7007.0800, subp. 2
C. RECORDKEEPING REQUIREMENTS	hdr
Performance Test Recordkeeping: The owner or operator of an affected facility subject to the provisions of 40 CFR Section 60, subp. JJJ shall maintain a record of the performance test required under 40 CFR Section 60.624.	40 CFR Section 60.625; Minn. R. 7011.3250

Facility Name: Leef Services Inc

Permit Number: 05300417 - 001

Subject Item: **GP 003 Clothes Dryers**

Associated Items: EU 003 Clothes Dryer 4 D-6a

EU 004 Clothes Dryer 3 D-6b

EU 005 Clothes Dryer 1 D-6c

EU 006 Clothes Dryer 2 D-6d

SV 003 Clothes Dryer 4 D-6a

SV 004 Clothes Dryer 3 D-6b

SV 005 Clothes Dryer 1 D-6c

SV 006 Clothes Dryer 2D-6d

What to do	Why to do it
A. POLLUTANT LIMITS	hdr
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot using 3-hour Rolling Average 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. (Limit applies to each dryer.)	Minn. R. 7011.0610, subp. 1(A)(1)
Sulfur Dioxide: less than 2.0 lbs/million Btu heat input using 3-hour Rolling Average (Limit applies to each dryer)	Minn. R. 7011.0610, subp. 2(A)(2)
Opacity: less than or equal to 20 percent opacity ; except for one six-minute period per hour of not more than 60 percent opacity. (Limit applies to each dryer.)	Minn. R. 7011.0610, subp. 1(A)(2)
B. OTHER LIMITS AND REQUIREMENTS	hdr
Towels Restriction: The Permittee shall dry general industry and printer towels in the following dryers (EU Nos. 003, 004, 005 and 006).	Minn. R. 7007.0080, subp. 2
Fuel Restriction: The Permittee shall combust natural gas or propane in the dryers.	Minn. R. 7007.0080, subp. 2
Recordkeeping of Fuel Restriction: The Permittee shall record and maintain records of the type of each fuel combusted in GP 003 by the 15th day of each month.	Minn. R. 7007.0800, subps. 4 and 5
C. PERFORMANCE REQUIREMENT	hdr
Performance Test: due 90 days after Initial Startup of EU 035 (VOC Stripper/Washer-Extractor Machine) to measure VOC emissions. For additional applicable performance test requirements see "General Performance Test Requirements" in Table A subject item "Total Facility".	Minn. R. 7017.2020, subp. 1

Facility Name: Leef Services Inc

Permit Number: 05300417 - 001

Subject Item: **GP 004 General Industry Towel Washing Machines**

Associated Items: EU 008 800# Washer 1 W-9a

EU 009 800# Washer 3 W-9b

EU 010 800# Washer 5 W-9c

EU 018 800 lbs Washer 2 W-9d

EU 019 800 lbs Washer 4 W-9e

EU 020 800 lbs Washer 6 W-9f

EU 030 800 lbs Washer/Extractor 1

EU 031 800 lbs Washer/Extractor 2

EU 032 800 lbs Washer/Extractor 3

EU 035 VOC Stripper/Washer-Extractor

What to do	Why to do it
A. POLLUTANT LIMITS	hdr
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot using 3-hour Rolling Average 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. (Limit applies to each washer.)	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity (Limit applies to each washer.)	Minn. R. 7011.0715, subp. 1(B)
B. OTHER LIMITS AND REQUIREMENTS	hdr
Towels Restriction: The Permittee shall not wash printer towels in the following washers (EU 020 and EU 030 - EU 032).	Minn. R. 7007.0800, subp. 2
Recordkeeping: The Permittee shall record and maintain the type of towels washed by the 15th day of each month for the previous month.	Minn. R. 7007.0800, subps. 4 and 5

Facility Name: Leef Services Inc

Permit Number: 05300417 - 001

Subject Item: **GP 005 Printer Towel Washing Machines AFTER Change**

Associated Items: EU 008 800# Washer 1 W-9a

EU 009 800# Washer 3 W-9b

EU 018 800 lbs Washer 2 W-9d

EU 019 800 lbs Washer 4 W-9e

EU 035 VOC Stripper/Washer-Extractor

SV 008 Main Washer Stack

What to do	Why to do it
OPERATING SCEANARIO FOR WASHERS (EU008, 009 AND EU 035) LIMITS AND RESTRICTIONS THAT APPLIES AFTER INSTALLATION OF NEW WASHER-EXTRACTOR (EU 035).	Minn. R. 7007.0800, subp. 11
A. POLLUTANT LIMITS	hdr
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot using 3-hour Rolling Average 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. (Limit applies to each washer.)	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity (Limit applies to each washer.)	Minn. R. 7011.0715, subp. 1(B)
B. OTHER LIMITS AND REQUIREMENTS	hdr
Towels Restriction: The Permittee shall wash printer towels in the following washers only (EU Nos. 008, 009, and 035). The Permittee shall also wash printer towels in EU 018 and EU 019 (No. 2 and No. 4) upon completion of ducting the exhaust from any of these washers to SV 008.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
The Permittee shall use the following operating washing scenarios for printer towels 1. Low-temperature washed in EU 008, 009, 035; 2. Steam stripped and washed in EU 035; and 3. Steam stripped in EU 035 and low-temperature washed in EU 008 and EU 009.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Leef Services Inc

Permit Number: 05300417 - 001

Subject Item: **EU 001 Boiler B-1**

Associated Items: SV 001 Boiler B-1

What to do	Why to do it
A. POLLUTANT LIMITS	hdr
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input using 3-hour Rolling Average . The PTE for the boiler is 0.00745 lb/mmBtu heat input at maximum capacity. Compliance with the fuel restriction requirement constitutes compliance with this limit.	Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input using 3-hour Average . The PTE for the boiler is 0.0006 lb/mmBtu heat input at maximum capacity. Compliance with the fuel restriction requirement constitutes compliance with this limit.	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity ; except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
B. OTHER LIMITS AND REQUIREMENTS	hdr
Fuel Restriction: The Permittee shall burn natural gas and propane fuel only.	Minn. R. 7007.0800, subp. 2
Recordkeeping: The Permittee shall record and maintain records of each fuel combusted on a monthly basis by the 15th day of each month for the previous month.	Minn. R. 7007.0800, subps. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Leef Services Inc

Permit Number: 05300417 - 001

Subject Item: **EU 035 VOC Stripper/Washer-Extractor**

Associated Items: GP 004 General Industry Towel Washing Machines

GP 005 Printer Towel Washing Machines AFTER Change

What to do	Why to do it
A. OTHER LIMITS AND REQUIREMENTS	hdr
The Permittee shall use the following operating scenario after a VOC performance test is completed and approved by the Commissioner. The printer towels shall be stripped in EU 035 and high-temperature washed in EU 008, 009 or 035 in open mode. If there are changes to any operating parameters, the Permittee shall apply for a major amendment. SEE GP 005 FOR ADDITIONAL REQUIREMENTS.	Minn. R. 7007.0800, subp. 11
B. PERFORMANCE TEST REQUIREMENTS	hdr
Initial Performance Test: due 30 days after Startup of EU 035 to operate in high-temperature wash mode to measure VOC emissions. If the Permittee does not operate in high temperature wash mode as described above, a performance test is not required. For additional applicable performance test requirements see "General Performance Test Requirements" in Table A subject item "Total Facility".	Minn. R. 7017.2020, subp. 1
C. MONITORING REQUIREMENT	hdr
The Permittee shall operate the condenser in accordance with the manufacturer's specifications. The condenser shall be in operation at all times when conducting steam stripping of printer towels.	Minn. R. 7007.0800, subps. 2 and 14
D. RECORDKEEPING REQUIREMENT	hdr
Recordkeeping: The Permittee shall maintain records by the 15th day of each month of the amount of printer towels washed for the previous month.	Minn. R. 7007.0800, subps. 4 and 5
E. REPORTING REQUIREMENT (SEE TABLE B)	hdr

TABLE B: SUBMITTALS

Facility Name: Leef Services Inc

Permit Number: 05300417 - 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:

AQ Permit Technical Advisor
Industrial 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:

AQ Compliance Tracking Coordinator
Industrial 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

Facility Name: Leef Services Inc

Permit Number: 05300417 - 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
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU 035	EU035
Notification of the date of Equipment Removal/Dismantlement	due 15 days after Equipment Removal and/or Dismantlement of Washer No. 5 (EU 010).	GP001

TABLE B: RECURRENT SUBMITTALS

Facility Name: Leef Services Inc

Permit Number: 05300417 - 001

What to send	When to send	Portion of Facility Affected
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. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	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, to the Commissioner. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX B: Insignificant Activities Required to be Listed
Facility Name: Leef Services, Inc.
Permit Number: 05300417-001

Insignificant Activities and Applicable Requirements

Minn. R. 7007.1300	Rule Description of the Activity	Likely Applicable Requirement
Subpart 3(A)	Fuel use in space heaters fueled by natural gas and propane • 3 Room Space Heaters • 3 Space Wash Room Heaters	Minn. R. 7011.0515
Subpart 4	Part 70 Insignificant activities with emissions less than 2.28 lb/hr of PM, PM_{10}, NOx, SO_2, and VOCs, and less than 5.7 lb/hr of CO • Steam Tunnel • Steam Dryers (2) • Rugs Dryers (2) • 200 lbs Dryers (2)	Minn. R. 7011.0710/0715 Minn. R. 7011.0610/0615
Subpart 3(E)	Storage Tanks: Solvent Storage Tank	Minn. R. 7011.1505

APPENDIX C: **Modeling Parameters**
Facility Name: Leef Services, Inc.
Permit Number: 05300417-001

Modeled Parameters Relied Upon To Predict Ambient Concentrations of Hazardous Air Pollutants

Source ID	Associated Emission Units	Description	Elevation	Stack Height	Exit Gas Temp.	Design Flow Rate	Inside Diameter
			(m)	(ft)	(F)	(acfm)	(ft)
SV 001	EU 001	Boiler B-1	1.69	5.54	404	4840	1.7
SV 003	EU 003	Clothes Dryer 4 D-6a	7.62	25.0	159	1690	2.5
SV 004	EU 004	Clothes Dryer 3 D-6b	7.62	25.0	159	1690	2.5
SV 005	EU 005	Clothes Dryer 1 D-6c	7.62	25.0	159	1690	2.5
SV 006	EU 006	Clothes Dryer 2D-6d	7.62	25.0	159	1690	2.5
SV 008	EU 008,009 and 010	Washer 1, 3, and 5	15.49	50.82	76	581	2.7

APPENDIX D: Emission Factors for Air Pollutants
Facility Name: Leef Services, Inc.
Permit Number: 05300417-001

EMISSION FACTORS FOR PRINTER TOWELS

Individual Air Toxics	Emission Unit	Emission Factors (lb/1000 lb towels)
Methanol	Dryers	0.14
Perchloroethylene	Dryers	0.04
Toluene	Dryers	12.10
Petroleum Hydrocarbons Aliphatic (C_7-C_{11})	Dryers	47.29
Methanol	Washers	0.12
Perchloroethylene	Washers	0.03
Toluene	Washers	10.45
Petroleum Hydrocarbons Aliphatic (C_7-C_{11})	Washers	40.85

EMISSION FACTORS FOR GENERAL INDUSTRY TOWELS

Individual Air Toxics	Emission Unit	Emission Factors (lb/1000 lb towels)
Methanol	Dryers	0.10
Perchloroethylene	Dryers	1.72
Toluene	Dryers	0.26
Petroleum Hydrocarbons Aliphatic (C_7-C_{11})	Dryers	13.08
Methanol	Washers	0.09
Perchloroethylene	Washers	1.61
Toluene	Washers	0.24
Petroleum Hydrocarbons Aliphatic (C_7-C_{11})	Washers	12.27

TECHNICAL STECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 05300417-001

This Technical Support Document (TSD) is intended for all parties interested in the 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 permit.

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 7218)
Leef Services, Inc. 212 James Avenue North Minneapolis, Minnesota 55405	Leef Services, Inc. 212 James Avenue North Minneapolis, Minnesota 55405 Hennepin County
Contact: Mr. Wayne Lee Phone: (612) 381-3213	

1.2. Description of the Facility

Leef Services, Inc. owns and operates an industry laundering facility in the city of Minneapolis, Hennepin County, in Minnesota. Rugs, garments, mops, linens, and wiping towels are among the types of products cleaned at the facility. Cleaning operations are primarily water washing; however, a small amount of products are dry cleaned using non-hazardous air pollutant solvents, which is subject to 40 CFR pt. 60, subp. JJJ. Drying of water-washed products are performed primarily in natural gas/propane fired dryers. There are also additional make-up heaters and a boiler for heating purposes.

The main emissions of air emissions are volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). The permit limits the emissions of the facility such than that the facility is classified as a non-major under federal New Source Review regulations (40 CFR § 52.21) and under federal Operating Program (40 CFR pt. 70). The permit also limits HAPs emissions such that the facility is an area source under the National Emissions Standards for Hazardous Air Pollutants (NESHAPs, 40 CFR pt. 63). In addition, as part of the permitting process an air emission risk analysis (AERA) was submitted to Minnesota Pollution Control Agency (MPCA). The MPCA reviewed and approved the AERA.

1.3. Description of the Permit Action

Leef submitted an application for a Total Facility Air Emission Permit as requires by Minnesota Rules Chapter (Minn. R. ch.) 7007. Minn. R. ch. 7007 implements Title V of the federal Clean Air Act as amended 1990.

The permit application was received by the Minnesota Pollution Control Agency (MPCA) on December 15, 1995, in accordance with its deadline. The Permittee has submitted subsequent information to the permit application. The Permittee did not submit any information that claimed to be confidential verbally or in written correspondence.

The Permittee has accepted permit limits for VOCs emissions to 70 tons per year based on a 12-month rolling sum, process throughput on the amount of printer and general industry towels processed, total individual HAP emissions to 6.1 tons per year on a 12-month rolling sum and total combined HAP emissions to 13.2 tons per year on a 12-month rolling sum. The permit limits the emissions of the facility such that the facility is classified as a non-major source under federal NSR, NESHAPs and Part 70. The facility will be issued a state operating permit.

This permit also addresses an administrative permit amendment and a notification of replacement of a unit that were submitted to the MPCA from Leef on September 27, 2006 and November 9, 2006, respectively. The administrative permit amendment address the name change of the facility from Leef Bros. to Leef Services, Inc. and the notification of replacement was to replace washer No. 5 with a washer-extractor.

1.4. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary (in tons per year):

	PM tpy	PM_{10} tpy	SO_2 tpy	NOx tpy	CO tpy	VOC tpy	Pb tpy	Single HAP (tpy)	Combined Total HAPs tpy
Total Facility Limited Potential Emissions*	2.62	2.62	0.12	33.96	15.36	70.00	0.0	6.1	13.2
Total Facility Actual Emissions (2005)	2.39	2.39	0.01	1.39	1.17	53.12	0.0	Not Available	Not Available

*These are the limited potential emissions from column 3 in GI-07 from Delta. They differ from those in the permit application sent by Leef Services in that they have been verified as need be by MPCA staff. These are the potential emissions that would appear in a public notice.

Table 2. Facility Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
Prevention of Significant Deterioration (PSD)	N/A	VOC	PM, PM_{10}, NOx, CO, SO_2
Part 70 Permit Program		VOC	CO, NO_x, SO_2,PM_{10}
Part 63 NESHAP		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 limited based on permit restrictions; therefore the facility is non-major under New Source Review Regulations (40 CFR § 52.21).

Part 70 Permit Program

The facility is a non-major source under the Part 70 permit program.

New Source Performance Standards (NSPS)

The facility is subject to the Standards of Performance for Petroleum Dry Cleaners, subp. JJJ

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is limited based on permit restrictions. Thus, no NESHAPs apply. Currently, there are no applicable source categories for this industry sector.

Minnesota State Rules

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

- *Minn. R. 7011.0710 Standards of Performance for Pre-1969 Industry Process Equipment*
- *Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment*
- *Minn. R. 7011.0610 Standards of Performance for Existing Direct Heating Equipment*

Table 3. Regulatory Overview of Facility

* Level	Applicable Regulations	** Comments:
Total Facility (TF)	40 CFR § 52.21; 40 CFR pt. 70; 40 CFR pt. 63; Minn. R. 7011.0715	Title I Condition: Prevention of Significant Deterioration (PSD), federal operating program, and Standards of Performance for Pre 1969 Industry Equipment. Limits taken to avoid major source classification under PSD for all emissions of VOC. Also limit to avoid major source classification under Part 63 for all HAP emissions.
TF	Minn. R. chs. 7002, 7007, 7009, 7011, 7019, 7030	Table A contains requirements that apply to all facilities in Minnesota. Reporting and monitoring requirements are contained in Table B of the permit.
TF	40 CFR pt. 50; Minn. R. 7009.0010-0080	Modeling requirements to ensure emissions do not cause a violation of the ambient air quality standards.
GP 002; GP 004; (EU 008-010; EU 018-020; 030-032)	Minn. R. 7011.0700-7011.0735	Standards of Performance for Industry Equipment This standard includes limits for particulate matter and opacity.
GP 003 (EU 003-0006)	Minn. R. 7011.0610, subp. 1(A)(1) and (2)	Standards of Performance for Direct Heating Equipment Natural Gas and propane are used to provide the heat. This rule specifies limits for particulate matter and opacity
GP 006; EU 001	Minn. R. 7011.0510, subp. (1) and (2)	Standards of Performance for Indirect Heating equipment. This rule specifies limits for particulate matter, sulfur dioxide and opacity.
GP 002; EU 012-015 CE 001	40 CFR pt. 60, subp. JJJ	Standards of Performance for Petroleum Dry Cleaners. This rule specifies limits for volatile organic compounds.
TF	Minn. R. 7030.0010-7030.0080 Minn. R. 7007.0800, subp. 2	Noise Standards, which applies to all facilities in Minnesota. Process throughput limits which were based on the AERA. These are state-only requirements and are not enforceable by the EPA Administrator and citizens under the Clean Air Act. They refer to permit requirements that are mandated by state law rather than by the federal Clean Air Act. The language is to clarify the distinction between permit conditions that are

		required by federal law and those are required by state law. State law requirements are not enforceable by U.S. EPA or by citizens under the federal Clean Air Act, but are fully enforceable by the MPCA and citizens under provisions of state law.

3. Technical Information
Attachments 1-5 of this Technical Support Document (TSD) contain calculations and supporting information prepared by both the Permittee and the MPCA staff.

3.1. <u>Calculations of Potential to Emit</u>

In May 2003, the MPCA approved the testing plan protocol for the facility. The performance was required because there were no Environmental Protection Agency (EPA) established emission factors for this industry sector. In May 2003, the company tested the main washer stack and the clothes dryer stack for five consecutive days in order to account for daily variability of soiled printer towels that were washed and dried. Each day, three representative total hydrocarbons samples were collected which ideally encompass an entire production day. In addition, the company analyzed for specific chemicals (methylene chloride, methanol, glycol ethers, xylene, cumene, naphthalene, toluene, ethylbenzene, MEK, 1,2,4,-trimethybenzene, acetone, trichloroethylene and perchlorethylene), which were identified based on the company's 20 largest clients' Material Safety Data Sheets (MSDS). The 20 largest clients represented about 60 percent of the total printing towels processed.

The extensive performance test was done to determine VOC and HAP emission factors for the printer and shop towels using EPA Methods 25A and 320. The company proposed some pollution prevention measures at the source. The test was done under optimal conditions, using a new detergent formulation with low temperature water to reduce emissions from the printer towels only.

The MPCA performance staff reviewed the performance test data and verified that the test met all the conditions under Minn. R. 7017.2020. The performance test determined that the facility emits the following compounds: VOCs, methanol, perchlorethylene, toulene and petroleum hydrocarbons aliphatic (C_7-C_{11}).

3.1.1. Drying Printer Towels

Maximum hourly VOC emissions from the dryer using printer towels were based on the maximum design capacity of the dryer and the highest emission factor of all individual test runs when drying printer towels.

900 lb towels/hr x 81.40 lb/1000 lb towels = 73.26 lb/hr (4 dryers) = 293.04 lb/hr

Maximum annual VOC emissions of the dryer using printer towels were based on using the 95% upper confidence limit of the arithmetic mean and the restriction of the amount of printer towels processed in the dryer per year.

250,000 lb towels/year x 59.52 lb/1000 lb towels x 1ton/2000lbs = 7.44 tons/yr (4 dryers) = 29.76 tons/year

3.1.2. Washing Printer Towels

Maximum hourly VOC emissions from three washers using printer towels were based on the total maximum design capacity of the washers and the highest emission factor of all individual test runs when printer towels exhausted to a single stack.

2700 lb towels/hr x 70.90 lb/1000 lb towels = 191.43 lb/hr

Maximum annual VOC emissions from the three washers using printer towels were based on using the 95% upper confidence limit of the arithmetic mean and the restriction of the amount of printer towels processed in the washers per year

1,000,000 lb towels/year x 51.42 lb/1000 lb/towels x 1 ton/2000 lbs = 25.71 tons/year

3.1.3. Drying General Industry Towels

Maximum hourly VOC emissions of the dryer using general industry towels were based on the maximum design capacity of the dryer and the highest emission factor of all individual test runs when drying printer towels. The printer towels emission factor was used since printer towels yield the highest emission factor on an hourly basis.

900 lb towels/hr x 13.43 lb/1000 lb towels = 12.09 lb/hr (4 dryers) = 48.35 lb/hr

Maximum annual VOC emissions of the dryer using general industry towels were based on an annual restriction on the amount of industry towels processed and the highest emission factor of all individual test runs.

212,500 lb towels/year x 13.43 lb/1000 lb towels x 1 ton/2000 lbs = 1.43 tons/year (4 dryers) = 5.7 tons/year.

3.1.4. Drying General Industry Towels

Maximum hourly VOC emissions of the three washers using general industry towels were based on the maximum design capacity of the washers and the highest emission factor of all individual test runs when washing printer towels. The printer towels emission factor was used since printer towels yield the highest emission factor on an hourly basis.

2700 lb towels/hr x 12.60 lb/1000 lb towels = 34.02 lb/hr

Maximum annual VOC emissions of the washers using general industry towels were based on an annual restriction on the amount of industry towels processed and the highest emission factor of all individual test runs.

850, 000 lb towels/year x 12.60 lb/1000 lb towels x 1 ton/2000 lbs = 5.36 tons/year

3.1.5. Individual HAP Emissions

Individual HAP emissions were calculated based on the same methodology used in calculating VOC emissions above.

Example calculations for Toluene Hourly and Annual Emissions from the dryers
900 lb towels/hr x 13.99 lb/1000 lb towels = 12.59 lbs/hr
250,000 lb towels/yr x 12.10 lb/1000 lbs towels x 1 ton/2000 lbs = 1.51 tons/yr per dryer
For 4 dryers = 6.04 tons/year

3.1.6. Fuel Combustion Emissions

Emissions from fuel combustion source were calculated using the emission factors for natural gas and liquid propane combustion taken from Compilation of Air Pollutant Emission Factors (AP-42), 5th Edition, Supplement D and the maximum rated heat input of the equipment.

3.1.7 Solvent Recovery Dryers Emissions

VOC Emissions from the solvent recovery dryers were calculated using the emission factors for well-controlled system taken from AP-42, 5th Edition, "Dry Cleaning, Table 4.1-1.
A well-controlled system, refers not to application of the control equipment but rather to maintaining all equipment (e.g. preventing lint accumulation, solvent leakage, etc.) and using by using good operating practices (e.g. not overloading machinery). The units are subject to NSPS and as such are well-controlled.

The MPCA has reviewed and verified the calculations submitted with some corrections. See calculations in Attachment 2.

Table 4. Total Unrestricted and Permitted Emissions Summary of Criteria Pollutants and Air Toxics

Criteria Pollutants	Unrestricted PTE (tpy)	Permitted PTE (tpy)	Air Toxics	Unrestricted PTE (tpy)	Permitted PTE (tpy)
PM	18.54	2.62	Methanol	4.5	0.06
PM_{10}	18.54	2.62	Perchloroethylene	27.1	0.73
SO_2	0.11	0.12	Toluene	220.6	6.05
NOx	39.94	33.96	Petroleum Hydrocarbons, Aliphatic (C7-C11)	1058.5	23.65
CO	15.36	15.38			
VOC	2115.86	70.0			
Lead	0.0	0.0			

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 considered the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limit;
- 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 method, and
- The kind of monitoring found on similar units.

Table 5 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 5. Periodic Monitoring

SV/EU/GP	Requirement (basis)	Additional Monitoring	Discussion
Total Facility (TF) VOC and HAP limits	a. VOC ≤ 70 tons per year based on a 12-month rolling sum (limit to avoid NSR) b. HAPs ≤ 6.1/13.2 individual/combined tons per year based on a 12-month rolling sum (limit to avoid NESHAP) c. Process Throughput : ≤ 1,000,000 lbs of soiled printer towels washed and dried based on clean, dry weight per year using a 12-month rolling sum (limit based on AERA) c. Process Throughput : ≤ 850,000 lbs of soiled general industry towels washed and dried based on clean, dry weight per year using a 12-month rolling sum (limit based on AERA)	a. Recordkeeping: Daily records total pounds of printer and general industry towels loaded. Monthly recordkeeping and calculations using emission factor derived from performance test using equations specified in the permit. b. On going recordkeeping to verify and certify on an annual basis to maintain the source in a non-major status.	Leef will calculate and maintain records of the 12-month rolling sum of VOC and HAP emission limits on a monthly basis. Leef will also keep track of printer and general industry towels processed in the washers. A 12-month rolling sum is warranted for Leef due to the substantial and unpredictable variation in their production. Wastewater Discharge Analysis: The Permitte will maintain records on-site its quarterly wastewater discharge reports to the Metropolitan Council Environmental Services (MCES), including supporting analysis that characterizes and quantifies the discharge pollutants. If there is a significant change to the trends in individual toxic pollutant discharges and increases the net wastewater discharge of toxic pollutant, the Permittee will retest to determine emission factors for VOCs and HAPs. Also, a new AERA may be required if the Commissioner determines that the current emissions are no longer representative of the facility.
Washing Machines: GP 001: (EU 008-010; SV 008)	a. PM/PM_{10}: variable depending on the airflow. (Minn. R. 7011.0715) b. Opacity ≤ 20% (Minn. R. 7011.0715)	a. and b. None c. Weekly monitoring of the thermocouples. d. Recordkeeping of the temperature	State rules require the permit to contain an emission limit for total PM, even though the actual emission rate for PM is extremely low. The likelihood of violating the PM and opacity emission standard is impossible as long as

SV/EU/GP	Requirement (basis)	Additional Monitoring	Discussion
	c. Temperature:≤ 140º F (limit to avoid NSR) d. Towels Restriction (limit to avoid NSR)		the units are properly maintained; therefore, there is no additional periodic monitoring is required. Recordkeeping of the temperature and monitoring of the thermocouple is adequate to have reasonable assurance of compliance (weekly and periodic inspections and correction actions).
Dryers: (GP 003; EU 003-006 and SV 003-006)	a. PM/PM_{10}: variable depending on the airflow. (Minn. R. 7011.0610) b. SO2: ≤ 2.0 lb/mmBtu (Minn. R. 7011.0610) b. Opacity: ≤ 20% except for one six-minute period per hour of not more than 60% opacity. (Minn. R. 7011.0610) c. Fuel Restriction: Natural gas and propane	a. Recordkeeping: Maintain records of fuel combusted in each unit on a monthly basis. b. Performance Test: due 90 days after the initial startup of EU 035 (Stripper/Washer-Extractor Machine for VOC emissions	Since the dryers will be fired with natural gas as their main fuel, there should be no significant PM, SO_2 or visible emissions while burning natural gas; therefore no additional monitoring is warranted. The Permittee will test the dryers within 90days of the start-up of the EU 035 to confirm that assumptions used in the AERA are still valid. Additional performance test may be done for continued compliance based on the test results.
Dry Clean Dryers/ Solvent Recovery Dryer (GP 002, EU 012-015, SV 010 – 013 and CE 001	Liquid Flow Rate: ≤ 0.013 gallons/ minute using a 1-minute average (40 CFR pt. 60.624) Solvent Recovery Dryer: must recover greater than 92% of petroleum solvent by weight	Recordkeeping: Flow rate and Operation and Maintenance Inspections Audible/Visual/ Olfactory Leak Detection	The recordkeeping is adequate to have a reasonable assurance of compliance (daily, and periodic inspections and correction actions) The Permittee will inspect the dryers for leaks every 15 days and all vapor and liquid leaks are required to be repaired within the subsequent 15 day period
General Industry (GP 008-	a. PM/PM_{10}: variable depending on the airflow.	a. Recordkeeping: Maintain records of fuel combusted in	State rules require the permit to contain an emission limit for total PM, even though the actual

SV/EU/GP	Requirement (basis)	Additional Monitoring	Discussion
010, EU 018-020 and 030-032)	(Minn. R. 7011.0715) b. Opacity ≤ 20% (Minn. R. 7011.0715) c. Towels Restriction (limit to avoid NSR)	each unit on a monthly basis.	emission rate for PM is extremely low. The likelihood of violating the PM and opacity emission standard is impossible as long as the units are properly maintained; therefore, there is no additional periodic monitoring is required. Allowed to wash general industry or other towels or rags in these washing machines.
Printer Towels Washing Machine after the installation of new VOC stripper/ washer-extractor (GP 004, 005, EU 008, 009. 018, 019 and 035)	a. PM/PM_{10}: variable depending on the airflow. (Minn. R. 7011.0715) b. Opacity ≤ 20% (Minn. R. 7011.0715) c. Additional Operating Washing Scenarios for EU 008, 009, 018, 019 and 035 (Minn. R. 7007.0800) d. To operate the condenser (Minn. R. 7007.0800)	a. and b. None c. Performance Test: due 90 days after the initial startup of EU 035 to measure VOC emissions only if to operate in high-temperature wash mode. d. Recordkeeping of the amount of printer towels processed. e. Notification for the startup of EU 035: due 15 days after initial startup of the unit.	State rules require the permit to contain an emission limit for total PM, even though the actual emission rate for PM is extremely low. The likelihood of violating the PM and opacity emission standard is impossible as long as the units are properly maintained; therefore, there is no additional periodic monitoring is required. If the Permittee decides to strip the printer towels in EU 035 and use a high-temperature wash in EU 008, EU 009, EU 018, or EU 019, the Permittee must complete a VOC performance test and apply for the appropriate permit amendment. The Permittee will operate the condenser in accordance with the manufacturer's specifications. The condenser is an integral part of the unit.
Boiler (EU 001)	PM ≤ 0.4 lb/MMBtu with a 3-hour basis (Minn. R. 7011.0510) SO_2 ≤ 2.0 lb/MMBtu with a 3-hour basis (Minn. R. 7011.0510)	Recordkeeping: Maintain a record on the type of fuel combusted.	Since the boiler will be fired with natural gas as its main fuel, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that the boiler will continue to operate such that emissions are

SV/EU/GP	Requirement (basis)	Additional Monitoring	Discussion
	Opacity ≤ 20% except for a maximum of 60 percent one six-minute period per hour of not more than 60 percent opacity. (Minn. R. 7011.0510) Fuel Restriction of type of fuel: natural gas and propane.		well below the emission limits by burning natural gas and propane. Since this is a permit condition, the semi-annual deviations report will document any deviations from this condition. Design based PTE for each unit, using AP-42, is 0.00745 lb/mmBtu compared to the rule limit of 0.4 lb/mmBtu. .

3.3 Insignificant Activities

Leef has several operations which are classified as insignificant activities. These are listed in Appendix B to the permit. The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities.

Table 6. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Fuel use: space heaters fueled by natural gas or propane 3(Administrative Room Space Heaters) 3(Wash Room Space Heaters)	PM ≤ 0.6 lb/MMBtu Opacity ≤ 20% with exceptions (Minn. R. 7011.0515)	For these units, based on the fuels used and EPA published emission factors, it is highly unlikely that the units could violate the applicable requirement. In addition, these types of units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Storage Tank 1(8,000 gallons)	Minn. R. 7011.1505	These tanks must be equipped with a permanent submerged fill pipe
Dryers • 200 lbs Dryer • Rug Dryers (2) • Steam Dryers (2)	PM, variable depending on the airflow	For these units, there are some factors available for the burners. Based on the knowledge of how these units operate, it is highly unlikely that they could violate the

Insignificant Activity	General Applicable Emission limit	Discussion
• 600 lbs Dryers (2)	Opacity ≤ 20% (Minn. R. 7011.0610 and Minn. R. 7011.0730/0735	applicable requirement or that testing would be feasible.
Washer (200 lbs capacity)	PM, variable depending on the airflow Opacity ≤ 20% (Minn. R. 7011.0715)	State rules require the permit to contain an emission limit for total PM, even though the actual emission rate for PM is extremely low. The likelihood of violating the PM and opacity emission standard is impossible as long as the units are properly maintained; therefore, there is no additional periodic monitoring is required.
Rug sand shaker w/bag filter vented inside 100% of the time	PM, variable depending on the airflow Opacity ≤ 20% (Minn. R. 7011.0715)	It is highly unlikely that they could violate the applicable requirement. In addition, the unit is vented inside the building, so testing for PM or opacity is not feasible.
Steam Tunnel	PM ≤ 0.6 lb/MMBtu Opacity ≤ 20% with exceptions (Minn. R. 7011.0515)	Based on the fuels used and EPA published emission factors, it is highly unlikely that the unit could violate the applicable requirement.

3.4 Air Emissions Risk Analysis (AERA)

Leef submitted their initial submittal of the AERA on May 24, 2006, and major revisions on July 17, 2006. The risk management recommendation was based on the following rationale (see documentation in Attachment 4 of this TSD):

1. The AERA was completed for the facility with lower wash water temperatures and increased stack height but prior to the installation of the new VOC stripper/washer-extractor and demonstrated that the health risks for inhalation are at one half or less of the threshold or acceptable risk level;
2. Approximately 95% of the VOC mass emissions were assessed;
3. The total petroleum hydrocarbons were characterized using a conservative approach for chronic toxicity by treating all of the total petroleum hydrocarbons as pyrene;
4. Modeling was done using flagpole receptors to account for residences that are located on terrain above the facility and to model concentrations at those locations; and

5. Total VOC and HAP emissions will be limited through operational limitations in the permit.

The risk management recommendation, based on the supporting documentation above and in Attachment 4, was approved to incorporate the following requirements in the permit:

1. Continue using the low-temperature wash;
2. Increase the stack heights;
3. Install the new VOC stripper/washer-extractor, which will employ a closed-loop system for washing printer towels or wipes; and
4. Conduct VOC emission testing to assess the effectiveness of the VOC stripper/washer-extractor.

3.5 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. One area where this permit deviates slightly from Delta guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be tracked (e.g., limits, submittals, etc.), should be in Table A or B. The main reason is that the appendices are word processing sections and are not part of the tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must generate these.

3.6 Comments Received

Public Notice Period: December 29, 2006-Feburary 14, 2007
EPA Review Period: December 29, 2006-Feburary 14, 2007
Public Information Meeting: January 31, 2007

Comments were received from the public during the public notice period. The comments received did include adverse comments on any applicable requirements of the permit. Changes to the permit were not made as a result of the comments. See Attachment 5 for a summary of comments and responses.

The draft/proposed permit was sent to EPA for their 30-day review on December 21, 2006. Comments were not received from EPA during their review period.

4. Conclusion

Based on the information provided by Leef Services, Inc., the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 05300417-001 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team:
Amrill Okonkwo (permit writer/engineer)
Suzanne Venem (enforcement)
Chris Stock (stack testing)
Greg Pratt (Modeling)
Vanessa Niemi/Dan Brady (AERA)
Dan Sullivan (peer reviewer)

Attachments:
1. PTE Summary and Emissions Calculation Spreadsheets
2. Facility Description and CD-01 Forms
3. Modeled Parameters Relied Upon to Predict Ambient Concentrations of HAPs
4. Air Emissions Risk Analysis Supporting Documentation
5. Responses to Comments Received During the Public Notice and Public Informational Meeting

ATTACHMENT 1
PTE Summary and Emissions Calculation Spreadsheets
(Paper Copy Only)

ATTACHMENT 2
Facility Description and Form CD-01 (Compliance Form)
(Paper Copy Only)

ATTACHMENT 3
Modeled Parameters Relied Upon to Predict Ambient Concentrations of Hazardous Air Pollutants
(Paper Copy)

ATTACHMENT 4
Air Emissions Risk Analysis (AERA) Supporting Documentation
(Paper Copy)

ATTACHMENT 5
Responses to Comments Received During the Public Notice and Public Informational Meeting
(Paper Copy Only)