

**AIR EMISSION PERMIT NO. 12300341- 002**

**IS ISSUED TO**

**Water Gremlin Company**

**WATER GREMLIN COMPANY**

1610 Whitaker Street  
White Bear Lake, Ramsey County, MN 55110

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

Permit Type	Application Date
Total Facility Operating Permit	09/23/1999
Major Amendment	07/19/2001

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. 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; Syn Min Part 70

**Issue Date:** March 18, 2002

**Expiration:** Permit does not expire  
All Title I Conditions do not expire.

---

Ann M. Foss  
Major Facilities Section Manager  
Majors and Remediation Division

for Karen A. Studders  
Commissioner  
Minnesota Pollution Control Agency

JSC:lh

## **TABLE OF CONTENTS**

**Notice to the Permittee**

**Permit Shield**

**Facility Description**

**Table A: Limits and Other Requirements**

**Table B: Submittals**

**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 in 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:**

Water Gremlin produces lead metal products including fishing sinker weights and lead acid battery terminals. Uncontrolled emissions from the facility are above the major source thresholds for Part 70 permit program. The facility is taking limits of Volatile Organic Compounds (VOCs) and Trichloroethylene (Hazardous Air Pollutant – HAP) to be a synthetic minor source under the Part 70 program, and to obtain a State Permit.

**MAJOR AMENDMENT DESCRIPTION:**

The Permittee is proposing to install a fluidized bed organics recovery system to control VOC and HAP emissions (with a control efficiency of equal to or greater than 95 percent) from their emission units.

The existing permit has monitoring and recordkeeping requirements for a catalytic oxidation system, with this amendment the Permittee will be monitoring and keeping records for the fluidized bed organics recovery system that controls VOC and HAP emissions.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/18/02

Facility Name: Water Gremlin Co

Permit Number: 12300341 - 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**

<b>What to do</b>	<b>Why to do it</b>
<p>Volatile Organic Compounds: less than 0.286 tons/day during the transition period of replacement of pollution control equipment. The maximum number of days of operation of Battery Terminal Post Coaters without any pollution control equipment is limited to 16 working days.</p>	<p>Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 2</p>
<p>Volatile Organic Compounds (VOC) Record Keeping during Transition Period:</p> <p>Beginning the second day of transition, by the end of each day, the Permittee shall:</p> <ol style="list-style-type: none"> <li>1) Record the total mass of each VOC-containing material from usage records in the previous day and the VOC content of of each material as determined by the Material Content requirement in this permit.</li> <li>2) Calculate the VOC usage for the previous day.</li> <li>3) Calculate the total VOC usage for the total number of working days of transition period.</li> </ol>	<p>Title I Condition: Record keeping to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 5</p>
<p>Trichloroethylene: less than or equal to 0.286 tons/day during the transition period of replacement of pollution control equipment. The maximum number of days of operation of Battery Terminal Post Coaters without any pollution control equipment is limited to 16 working days.</p>	<p>Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 2</p>
<p>Trichloroethylene (TCE) Record Keeping</p> <p>Beginning the second day of transition, by the end of each day, the Permittee shall:</p> <ol style="list-style-type: none"> <li>1) Record the total mass of TCE-containing material from usage records in the previous day and theTCE content of of each material as determined by the Material Content requirement in this permit.</li> <li>2) Calculate the TCE usage for the previous day.</li> <li>3) Calculate the total TCE usage for the total number of working days of transition period.</li> </ol>	<p>Title I Condition: Record keeping to avoid classification as a major source under 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 5</p>
<p>Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.</p>	<p>Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p>Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p>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.</p>	<p>Minn. R. 7011.0020</p>
<p>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.</p> <p>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.</p>	<p>Minn. R. 7019.1000, subp. 3</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/18/02

Facility Name: Water Gremlin Co

Permit Number: 12300341 - 002

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
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)
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)
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 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
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)
Emissions Inventory Report:  Due 91 days after end of each calendar year (April 1) starting 07/20/2000. 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**

03/18/02

Facility Name: Water Gremlin Co

Permit Number: 12300341 - 002

**Subject Item: GP 001 Battery Terminal Coaters with Rework Tables and Associated Control Equipment**

**Associated Items:** CE 001 Catalytic Afterburner  
 CE 003 Fluidized Activated Carbon Bed  
 EU 001 Battery Terminal Post Coater  
 EU 002 Battery Terminal Post Coater  
 EU 003 Battery Terminal Post Coater  
 EU 004 Battery Terminal Post Coater  
 EU 005 Battery Terminal Post Coater  
 EU 006 Battery Terminal Post Coater  
 EU 007 Battery Terminal Post Coater  
 EU 008 Battery Terminal Post Coater  
 EU 009 Battery Terminal Post Coater  
 EU 010 Battery Terminal Post Coater  
 EU 011 Battery Terminal Post Coater  
 EU 012 Battery Terminal Post Coater  
 EU 013 Battery Terminal Post Coater  
 EU 014 Battery Terminal Post Coater  
 EU 015 Battery Terminal Post Coater  
 EU 016 Future Battery Terminal Post Coater  
 EU 017 Future Battery Terminal Post Coater  
 EU 018 Future Battery Terminal Post Coater  
 EU 019 Future Battery Terminal Post Coater  
 EU 020 Future Battery Terminal Post Coater  
 EU 021 Future Battery Terminal Post Coater  
 EU 022 2 Rework Tables  
 SV 001  
 SV 002  
 SV 004 Adsorber Stack (for CE 003)

What to do	Why to do it
CE 001 will be replaced by CE 003. Upon completion of CE 003 installation, the Permittee must comply with the pollution control equipment requirements listed under CE 003 in this permit, and any permit conditions related to CE 001 will no longer be applicable.  There are 16 working days allowed for this transition, during which the Permittee may operate coaters uncontrolled. The maximum amount of Trichloroethylene (also a VOC) usage is limited to 0.286 tons per day.	hdr
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0515, subp. 1
Opacity: less than or equal to 20 percent , except for one six-minute period per hour of not more than 60 percent opacity	Minn. R. 7011.0515, subp. 2
Performance testing of indirect heating equipment must be performed in accordance to the procedures specified in Minn. R. 7011.0535, subp. 1 through Minn. R. 7011.0535, subp. 9	Minn. R. 7011.0535
VOC Usage: less than or equal to 316,666 lbs/month using 12-month Rolling Average . Calculate a new 12-month rolling average of VOC Usage by the fifteenth day of each month for the previous 12-month period. VOC Usage shall be calculated based on purchase records of all VOC-containing materials and corresponding material composition.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3

# TABLE A: LIMITS AND OTHER REQUIREMENTS

03/18/02

Facility Name: Water Gremlin Co

Permit Number: 12300341 - 002

<p><b>Volatile Organic Compounds (VOC) Record Keeping</b></p> <p>By the 15th of each month, the Permittee shall:</p> <ol style="list-style-type: none"> <li>1) Record the total mass of each VOC-containing material from purchase records in the previous month and the VOC content of each material as determined by the Material Content requirement in this permit.</li> <li>2) Calculate the VOC usage for the previous month.</li> <li>3) Calculate the average VOC usage for the previous 12 months (12-month Rolling Average).</li> </ol>	<p>Title I Condition: Record keeping to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3</p>
<p>Single HAP Usage: less than or equal to 31,666 lbs/month using 12-month Rolling Average. Calculate a new 12-month rolling average of Single HAP Usage by the fifteenth day of each month for the previous 12-month period. Single HAP Usage shall be calculated based on purchase records of all HAP-containing materials and corresponding material composition.</p>	<p>Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 70.3</p>
<p><b>Single Hazardous Air Pollutant (Single HAP) Record Keeping</b></p> <p>By the 15th of each month, the Permittee shall:</p> <ol style="list-style-type: none"> <li>1) Record the total mass of each HAP-containing material from purchase records in the previous month and the HAP content of each material as determined by the Material Content requirement in this permit.</li> <li>2) Calculate the Single HAP usage for the previous month.</li> <li>3) Calculate the average Single HAP usage for the previous 12 months (12-month Rolling Average).</li> </ol>	<p>Title I Condition: Record keeping to avoid classification as a major source under 40 CFR Section 70.3</p>
<p>Total HAP Usage: less than or equal to 80,000 lbs/month using 12-month Rolling Average. Calculate a new 12-month rolling average of combined total HAP Usage by the fifteenth day of each month for the previous 12-month period. Total HAP Usage shall be calculated based on purchase records of all HAP-containing materials and corresponding material composition.</p>	<p>Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 70.3</p>
<p><b>Total Hazardous Air Pollutant (Total HAP) Record Keeping</b></p> <p>By the 15th of each month, the Permittee shall:</p> <ol style="list-style-type: none"> <li>1) Record the total mass of each HAP-containing material from purchase records in the previous month and the HAP content of each material as determined by the Material Content requirement in this permit.</li> <li>2) Calculate the Total HAP usage for the previous month.</li> <li>3) Calculate the average Total HAP usage for the previous 12 months (12-month Rolling Average).</li> </ol>	<p>Title I Condition: Record keeping to avoid classification as a major source under 40 CFR Section 70.3</p>
<p>Material Content: VOC and HAP contents shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC and HAP contents. The Division Manager reserves the right to require the Permittee to determine the VOC and HAP contents of any material, according to EPA reference methods. If an EPA reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	<p>Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 70.3</p>
<p>Operate a rotor concentrator wheel/catalytic oxidizer/caustic scrubber emission control system at all times during which the subject associated emission units are in operation. Operation of the emission control system must achieve a minimum 95 percent reduction in HAP and VOC emissions relative to the inlet concentrations. Temperature at the inlet of the catalyst bed must be maintained at a minimum of 500 degrees Fahrenheit at all times during operation of the emissions control system until a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent performance test where compliance for VOC emissions was demonstrated. If the temperature at any time drops below the minimum temperature, the VOC shall be considered uncontrolled until the minimum temperature is once again achieved.</p>	<p>Title I Condition: Emission control to avoid classification as a major source under 40 CFR Section 70.3</p>
<p>Continuously monitor and record the temperature at the inlet and outlet of the catalyst bed at all times during which the rotor concentrator wheel/catalytic oxidizer/caustic scrubber emission control system is in operation. If at any time the measured inlet temperature drops below the minimum temperature requirement established during the most recent performance test, calculate 3-hour average inlet temperatures for each 3-hour block during the 12 hours immediately prior to and the 12 hours immediately following the time the inlet temperature dropped below the minimum temperature requirement. If any of the calculated 3-hour average inlet temperatures is below the minimum temperature requirement, this incident shall be considered a deviation, reportable as described elsewhere in this permit.</p>	<p>Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4</p>
<p>At a minimum of once per month, the Permittee shall perform an audit of catalyst bed inlet and outlet recorded temperatures. If the relative difference between catalyst bed inlet and outlet temperatures is indicative of catalyst bed impairment, as indicated by comparing observed temperature rise to historical temperature rise, the Permittee shall follow corrective actions as specific in the operation and Maintenance Plan. Maintain records of each catalyst bed temperature audit.</p>	<p>Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4</p>



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/18/02

Facility Name: Water Gremlin Co

Permit Number: 12300341 - 002

All monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the source are obtained. For monitoring equipment purchased from a vendor, verification of the operational status of the monitoring equipment shall include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4
Install, calibrate, operate, and maintain a temperature monitoring and recording system accurate to within plus or minus 10 degrees Fahrenheit to measure the oxidation temperature. Verify the accuracy of the temperature monitor at a minimum of once each year with a reference temperature monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent temperature measurement device dedicated for this purpose). During accuracy checking, the probe of the reference device shall be placed as close as physically practicable to the location as that of the temperature monitor being tested, such that representative temperature measurements are obtained.	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4
Quarterly Inspections: Once per calendar quarter, the Permittee shall complete a quarterly inspection form following visual inspection of the following components of the oxidizer: duct work, access doors, fan and motor assembly, burner, exhaust stack, observation port, temperature recording device, and inspection of entire perimeter for damage or extreme wear. If a problem is noted during an inspection, the Permittee shall follow corrective actions as specified in the Operation and Maintenance Plan. The inspection records shall be kept as permanent record at the source.	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4
Annual Inspections: Once annually, during oxidizer shutdown, the Permittee shall record inspection of the oxidizer components as described under the annual inspection guidelines in the equipment Operation and Maintenance Manual provided by the manufacturer. If a problem is noted during an inspection, the Permittee shall follow corrective actions as specified in the Operation and Maintenance Plan. The inspection records shall be kept as a permanent record at the source.	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4
Continuously monitor the pressure in the coating room as an indicator of capture efficiency using a pressure gauge at all times during which the rotor concentrator wheel/catalytic oxidizer/caustic scrubber emission control system is in operation. The minimum required pressure will be defined during initial performance testing of the emission control system.	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4
If the Permittee changes coating formulations to a different HAP-based coating carrier, Permittee shall notify the Commissioner within 30 days of making such a change. Within 90 days of the change in coating carrier, the Permittee shall conduct performance testing of the emission control system to determine the destruction efficiency of the new HAP.	Minn. R. 7007.0800, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/18/02

Facility Name: Water Gremlin Co

Permit Number: 12300341 - 002

**Subject Item:** GP 002 Lead Melting Pots and Associated Control Equipment**Associated Items:** CE 002 Electrostatic Precipitator - Low Efficiency

EU 023 Large Re-Melt Pot

EU 024 Small Re-Melt Pot

EU 025 Doe Run Melt Pot

EU 026 Collins Re-Melt Pot

SV 003

What to do	Why to do it
Particulate Matter < 10 micron: greater than or equal to 70 percent collection efficiency at all times during which the associated subject emission units are in operation.	Minn. R. 7011.0070, subp. 1
Type of fuel used: natural gas only	Minn. Stat. 116.007, subd. 4a and Minn. R. 7007.0800, subp. 2
Total Particulate Matter: less than or equal to 0.3 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.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Operate the electrostatic precipitator at all times during which the emission units associated with GP 002 are in operation.	Minn. R. 7011.0075, subp. 1
Operate and maintain the electrostatic precipitator according to the control equipment manufacturer's specifications.	Minn. R. 7011.0075, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/18/02

Facility Name: Water Gremlin Co

Permit Number: 12300341 - 002

**Subject Item:** SV 004 Adsorber Stack (for CE 003)**Associated Items:** GP 001 Battery Terminal Coaters with Rework Tables and Associated Control Equipment

What to do	Why to do it
Initial Performance Test: due 30 days after Permit Issuance to measure collection efficiency of VOC and HAP emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals:  Performance Test is outlined in Tables A, B of the permit. See Table B for additional requirements. Performance Test Notification (written): due 30 days before each Performance Test to measure VOC and HAP emissions collection efficiency Performance Test Plan: due 30 days before each Performance Test to measure VOC and HAP emissions collection efficiency Performance Test Pre-test Meeting: due 7 days before each Performance Test to measure VOC and HAP emissions collection efficiency Performance Test Report: due 45 days after each Performance Test to measure VOC and HAP emissions collection efficiency Performance Test Report - Microfiche Copy: due 105 days after each Performance Test to measure VOC and HAP emissions collection efficiency	Minn. R. 7017.2030, subp. 1,2,3, and 4; Minn. R. 7017.2035, subp. 1, and 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/18/02

Facility Name: Water Gremlin Co

Permit Number: 12300341 - 002

**Subject Item:** CE 003 Fluidized Activated Carbon Bed**Associated Items:** GP 001 Battery Terminal Coaters with Rework Tables and Associated Control Equipment

What to do	Why to do it
Operate a bead activated carbon adsorb/desorb/condenser emission control system at all times during which the associated emission units are in operation. Operation of the emission control system must achieve a minimum 95 percent reduction in VOC and HAP emissions.	Title I Condition: Emission control to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3
Continuously monitor the pressure in the coating room as an indicator of capture efficiency using a pressure gauge at all times during which the bead activated carbon adsorb/desorb/condenser emission control system is in operation. A negative pressure to be maintained at all times in the coating room. The coating room shall be equipped with an alarm to notify operators if the pressure in the room moves outside the negative pressure range.	Title I Condition: Monitoring and Recordkeeping to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4 and subp. 5
Continuously monitor the inlet static pressure in the adsorber. The emission control system shall be equipped with an alarm to notify operators if the pressure moves outside of the normal range determined by the equipment manufacturer during installation and start-up.	Title I Condition: Monitoring and Recordkeeping to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4 and subp. 5
Adsorber Inlet Pressure Drop: greater than or equal to 2.0 inches of water column and less than or equal to 4.5 inches of water column	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4
Continuously monitor the desorber fluid temperature. The system shall be equipped with an alarm to notify operators if the temperature drops below the minimum temperature for efficient regeneration.	Title I Condition: Monitoring and Recordkeeping to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4 and subp. 5
Desorber Fluid Temperature: greater than or equal to 250 degrees F and less than or equal to 450 degrees F	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4
Continuously monitor the temperature of the carbon exiting the desorber. The emission control system shall be equipped with an alarm to notify operators if the temperature of the carbon exceeds the maximum temperature for adsorption efficiency.	Title I Condition: Monitoring and Recordkeeping to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4 and subp. 5
Maximum Allowable Aftercool Temperature: less than or equal to 120 degrees F	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4
Continuously monitor the carrier gas static pressure. The emission control system shall be equipped with an alarm to notify operators if the pressure moves outside of the normal range determined by the equipment manufacturer during installation and start-up.	Title I Condition: Monitoring and Recordkeeping to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4 and subp. 5
Carrier Gas Feed Pressure Pressure Drop: greater than or equal to 25 inches of water column and less than or equal to 40 inches of water column	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4
Record the following parameters at a minimum once each day of operation: - Pressure in the coating room - Inlet Static Pressure in the adsorber - Desorber Fluid Temperature - Temperature of the Carbon exiting the Desorber - Carrier Gas Feed Pressure	Title I Condition: Monitoring to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3; Minn. R. 7007.0800, subp. 4
If the parameters documented are outside the allowed ranges, the Permittee must take immediate steps to return the parameters to within the allowed ranges in this permit.	Minn. R. 7007.0800, subp. 2

## TABLE B: SUBMITTALS

03/18/02

Facility Name: Water Gremlin Co  
Permit Number: 12300341 - 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**

03/18/02

Facility Name: Water Gremlin Co

Permit Number: 12300341 - 002

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>
Notification of the Actual Date of Initial Startup	due 2 days after Initial Startup (2 working days) begins.	CE003
Notification of the date of Equipment Removal/Dismantlement	due 2 days after Equipment Removal and/or Dismantlement ( 2 working days) begins.	CE001

**TABLE B: RECURRENT SUBMITTALS**

03/18/02

Facility Name: Water Gremlin Co

Permit Number: 12300341 - 002

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 07/20/2000 . 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 occur, the Permittee shall submit a report stating that no deviations occurred during the reporting period.	Total Facility
Compliance Certification	due 31 days after end of each calendar year starting 07/20/2000 (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner, and to the U.S. EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

**TECHNICAL SUPPORT DOCUMENT**  
**For Water Gremlin Company**  
**AIR EMISSION PERMIT NO. 12300341-002**

This technical support document is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

**1. General Information**

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

Facility Address and Contact phone number (SIC Code: 3364) Water Gremlin Company 1610 Whitaker Street White Bear Lake, MN 55110 Ramsey County David Zinschlag: (651) 429-7761
---

**1.2. Description of the Facility**

Water Gremlin produces lead metal products including fishing sinker weights and lead acid battery terminals. Uncontrolled emissions from the facility are above the major source thresholds for Part 70 permit program. The facility is taking limits of Volatile Organic Compounds (VOCs) and Trichloroethylene (Hazardous Air Pollutant – HAP) to be a synthetic minor source under the Part 70 program, and to obtain a State Permit.

**1.3 Description of the Activities Allowed By This Permit Action**

The Permittee is proposing to install a fluidized bed organics recovery system to control VOC and HAP emissions (a control efficiency of greater than 95 percent) from their emission units. The existing permit has monitoring and recordkeeping requirements for a catalytic oxidation system, with this amendment the Permittee will be monitoring and keeping records for the fluidized bed organics recovery system that controls VOC and HAP emissions. The pollution control equipment replacement is done over a period of 16 working days, during which the Permittee is allowed to operate the Battery Terminal Coaters uncontrolled with a maximum of 0.286 tons per day, and the total of VOC and Trichloroethylene emissions of 4.58 tons per year for 16 working days.

**Important Note: This permit amendment does not authorize any additional annual emissions, and hence the emissions table for the facility or the permit amendment emissions summary is not included in this document.**



## 2. Regulatory and/or Statutory Basis

Summary Regulatory and/or Statutory Basis of the Emission or operational Limit

### Regulatory Overview of Units Affected by the Modification

Table 4. Regulatory Overview

*GP, CE or SV #	Applicable Regulations	**Comments
GP 001 CE 001 CE 003 SV 004	40 CFR § 52.21 and 40 CFR § 70.3	Title I Condition: To avoid a major source classification; Emission control system for VOC and HAP with a collection efficiency greater than or equal to 95%.
GP 001 CE 003 SV 004	40 CFR § 52.21 and 40 CFR § 70.3; Minn. R. 7007.0800, subp. 4	Title I Condition: Monitoring to avoid a major source classification; Continuously monitor – pressure in the coating room, inlet static pressure in the adsorber, desorber fluid temperature, carbon exiting the desorber temperature, and carrier gas static pressure.
GP 001 CE 003 SV 004	Minn. R. 7017.2020, subp. 1	Initial Performance Test: To measure VOC and HAP collection by the emission control system

GP = Group, CE = Control Equipment, SV = Stack/Vent

## 3. Technical Information

Main System Components of the VOC and HAP emission control system at Water Gremlin facility are:

- Adsorber – Directs air through sieve trays to intimately contact vapors with carbon absorbent for collection and concentration of organics: **Monitor and record inlet static pressure on a daily basis.**
- Desorber – Thermally regenerates adsorbent, concentrates organics: **Monitor desorber operation temperature and the carrier gas pressure and record on a daily basis.**
- Condenser – Removes highly concentrated organics from desorbate stream.
- Carbon Adsorbent - Adsorbs organic vapors from process exhaust: **Monitor adsorbent temperature and record on a daily basis.**

The Permittee is required to install and operate CE 003 (fluidized bed organics recovery system as part of the “Schedule of Compliance” to replace CE 001 (catalytic oxidizer).

Public Comment Period: No Comments were received during the 30-day comment period.

#### **4. Conclusion**

Based on the information provided by Water Gremlin Company, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 12300341-002, 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: Rhonda Land, Bob Berg, and John Chikkala