

**AIR EMISSION PERMIT NO. 12300341- 001
IS ISSUED TO**

WATER GREMLIN
1610 Whitaker Avenue
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: State of Minnesota	Application Date: 9/23/99
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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 as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: State of Minnesota - Synthetic Minor Part 70

Issue Date: July 20, 2000

Expiration: All Title I Conditions do not expire.

Richard J. Sandberg, Manager
Major Facilities Section
Metro District

for Karen A. Studders, 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, Major Facilities Section, Metro District, 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. Certain requirements which have been determined not to apply are listed in Table A of this permit.

FACILITY DESCRIPTION:

The Permittee, Water Gremlin Company (Water Gremlin) operates an existing manufacturing facility which produces lead metal products including fishing sinker weights and lead acid battery terminals. Battery terminal posts constitute the bulk of production at the facility. Uncontrolled emissions from the facility are above major source thresholds for Part 70, 112(g), and other regulatory programs.

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/00

Facility Name: Water Gremlin
 Permit Number: 12300341 - 001

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

Subject Item:**Total Facility**

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

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/00

Facility Name: Water Gremlin

Permit Number: 12300341 - 001

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)
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

07/20/00

Facility Name: Water Gremlin
 Permit Number: 12300341 - 001

What to do	Why to do it
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
<p>Volatile Organic Compounds (VOC) Record Keeping</p> <p>By the 15th of each month, the Permittee shall:</p> <ol style="list-style-type: none"> 1) Record the total mass of each VOC-containing material from purchase records in the previous month and the VOC content of of each material as determined by the Material Content requirement in this permit. 2) Calculate the VOC usage for the previous month. 3) Calculate the average VOC usage for the previous 12 months (12-month Rolling Average). 	Title I Condition: Record keeping to avoid classification as a major source under 40 CFR Section 52.21 and 40 CFR Section 70.3
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.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 70.3
<p>Single Hazardous Air Pollutant (Single HAP) Record Keeping</p> <p>By the 15th of each month, the Permittee shall:</p> <ol style="list-style-type: none"> 1) Record the total mass of each HAP-containing material from purchase records in the previous month and the HAP content of of each material as determined by the Material Content requirement in this permit. 2) Calculate the Single HAP usage for the previous month. 3) Calculate the average Single HAP usage for the previous 12 months (12-month Rolling Average). 	Title I Condition: Record keeping to avoid classification as a major source under 40 CFR Section 70.3
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.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 70.3
<p>Total Hazardous Air Pollutant (Total HAP) Record Keeping</p> <p>By the 15th of each month, the Permittee shall:</p> <ol style="list-style-type: none"> 1) Record the total mass of each HAP-containing material from purchase records in the previous month and the HAP content of of each material as determined by the Material Content requirement in this permit. 2) Calculate the Total HAP usage for the previous month. 3) Calculate the average Total HAP usage for the previous 12 months (12-month Rolling Average). 	Title I Condition: Record keeping to avoid classification as a major source under 40 CFR Section 70.3
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.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 70.3
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.	Title I Condition: Emission control 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

07/20/00

Facility Name: Water Gremlin

Permit Number: 12300341 - 001

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 that 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.	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
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 specified in the Operation and Maintenance Plan. Maintain records of each catalyst bed temperature audit.	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
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 52.21 and 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 52.21 and 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 a permanent record at the source.	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
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 52.21 and 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. Record the indicated pressure at a minimum once each day of 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 52.21 and 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
Initial Performance Test: due 90 days after Initial Startup	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/00

Facility Name: Water Gremlin
Permit Number: 12300341 - 001

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 B: SUBMITTALS

07/20/00

Facility Name: Water Gremlin
Permit Number: 12300341 - 001

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

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

Send any application for a permit or permit amendment to:

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

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

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

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

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

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

07/20/00

Facility Name: Water Gremlin

Permit Number: 12300341 - 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
Performance Test Notification (written)	due 30 days before Performance Test	GP001
Performance Test Plan	due 30 days before Performance Test	GP001
Performance Test Report - Microfiche Copy	due 105 days after Performance Test	GP001
Performance Test Report	due 45 days after Performance Test	GP001

TABLE B: RECURRENT SUBMITTALS

07/20/00

Facility Name: Water Gremlin
Permit Number: 12300341 - 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 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 following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner <, both to the Commissioner, and to the U.S. EPA regional office in Chicago>. This report covers all deviations experienced during the calendar year. < The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604>	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

TECHNICAL SUPPORT DOCUMENT
for
DRAFT AIR EMISSION PERMIT 12300341-001

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:

Owner/Operator Address	Facility Address and Telephone Number (SIC Code: 3089)
Water Gremlin Company 1610 Whitaker Avenue White Bear Lake, Minnesota 55110	Water Gremlin Company 1610 Whitaker Avenue White Bear Lake, Minnesota 55110 (651) 429-7761

1.2. Description of the Facility

The Permittee, Water Gremlin Company (Water Gremlin) operates an existing manufacturing facility which produces lead metal products including fishing sinker weights and lead acid battery terminals. Battery terminal posts constitute the bulk of production at the facility. Uncontrolled emissions from the facility are above major source thresholds for Part 70, 112(g), and other regulatory programs.

1.3. Description of Activities Allowed by this Permit Action

Water Gremlin has requested an air emission permit for expansion of their existing facility. The expansion will entail addition of six battery terminal post coating machines to the existing array of fifteen coaters, bringing the total to twenty-one coaters.

To become a synthetic minor source following the modification, as well as to make the modification itself synthetic minor, Water Gremlin has proposed enforceable conditions to operate existing pollution control equipment in such a manner that Volatile Organic Compound (VOC) and Hazardous Air Pollutant (HAP) emissions are below regulatory thresholds. By incorporating enforceable requirements for air pollution control equipment operation into this permit, a reduction in facility-wide potential VOC and HAP emissions will be realized, while still accomodating Water Gremlin's proposed expansion.

1.4. Facility Emissions:

Table 1. Emissions Associated with the Modification

Pollutant	Potential to emit from the modification (lb/hr)	Potential to emit from the modification (TPY)	*Emission increases authorized with this permit action (TPY)	*Emission decreases authorized with this permit action (TPY)	*Other contemporaneous emission increases/decreases (TPY)	Net emission change (TPY)	NSR/112(g) threshold level (TPY)	NSR/MACT review required (Yes or No)
PM	0.7	2.9	NA	NA	NA	NA	25	No
PM10	0.7	2.9	NA	NA	NA	NA	15	No
SO2	0.0	0.0	NA	NA	NA	NA	40	No
NOx	0.2	0.8	NA	NA	NA	NA	40	No
VOC	-7.1	-25.4	NA	NA	NA	NA	40	No
CO	0.1	0.6	NA	NA	NA	NA	100	No
Lead	0.0	0.0	NA	NA	NA	NA	0.6	No
**TCE	-26.8	-96.6	NA	NA	NA	NA	NA	No

*Emission increases allowed with the permit action include additions and subtractions associated with netting. If netting is done, this will be different from the potential to emit from the modification.

**TCE = Trichloroethylene

Table 2. Uncontrolled/Unlimited Potential to Emit Summary

Emission Unit	Stack/Vent	Emission Unit Description	PM tpy	PM-10 tpy	SO2 tpy	NOx tpy	CO tpy	VOC tpy	Pb tpy	TCE** tpy
EU 001 through EU 022	SV 001 through SV 002	Battery Terminal Post Coating Machines	0.0	0.0	0.0	0.4	0.4	151.8	0.0	133.6
EU 023 through EU 026	SV 003	Lead Melting Pots	5.8	5.8	0.0	1.2	1.0	0.1	0.0	0.0
		Total Facility Actual Emissions*	NA	NA	NA	NA	NA	62.4	NA	NA

*Total Facility Actual Emissions as indicated are from 1997 MPCA emissions inventory database.

**TCE = Trichloroethylene

Table 3. Permit Action Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD		X	
NAAR			
Part 70 Permit Program		X	

* 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 of Emission Limits

Table 4. Regulatory Overview*

Subject Item(s)	Applicable Regulations	Comments
Total Facility	Part 70 of the Clean Air Act	The existing facility (including the proposed modifications) is subject to the general requirements for Part 70 synthetic minor facilities
EU 001 through EU 022	40 CFR Section 52.21; 40 CFR Section 70.3	The battery terminal post coating equipment and associated items will be subject to material usage limits, monitoring, record keeping, and reporting requirements to avoid classification as a major permit action under Part 70 of the Clean Air Act and the Prevention of Significant Deterioration portion of New Source Review.
CE 001	40 CFR Section 52.21; 40 CFR Section 70.3	The air pollution control system (rotor concentrator wheel, catalytic oxidizer, and caustic scrubber) will be subject to operational requirements, monitoring, record keeping, reporting, and performance testing requirements to avoid classification as a major permit action under Part 70 of the Clean Air Act and the Prevention of Significant Deterioration portion of New Source Review.
EU 023 through EU 026; CE 002	Minn. R. ch. 7011	The lead melting pots and electrostatic precipitator particulate matter control device are subject to State of Minnesota rules for listed control devices, as well as the Minnesota "Industrial Process Equipment Rule."

* Please refer to the permit for a complete citation of regulatory requirements.

3. Technical Information

Emissions from all of the battery post coating machines will be directed to the rotor concentrator wheel/catalytic oxidizer/caustic scrubber control device. This air pollution control system was previously installed as an insignificant activity; the system has the capacity to accommodate the proposed facility expansion. By incorporating enforceable conditions for operation of the air pollution control equipment, as well as raw material usage limits, a reduction in potential VOC and HAP emissions from the facility will be achieved.

Virtually all of the HAP used at the facility is trichloroethylene (TCE), a component in a coating blend applied to provide a leak-proof, acid-resistant seal between battery terminal posts and battery cases. Water Gremlin has explored alternatives for replacing TCE in the coating process, but has been unable to find a suitable replacement. Pollution prevention efforts at the facility have resulted in TCE annual emission reductions for the past several years. Operation of the aforementioned air pollution control system will prevent at least 95 percent of TCE used in the coating process from being emitted.

Potential emissions were calculated based on maximum application rates and worst-case raw material composition. Most of the equipment is operated on a batch basis, so the hourly potential emissions are greater than those reflected in the “tons per year” potential emissions, for the most part. The following is an example of how potential VOC or TCE emissions were calculated for the battery terminal post coating operations:

$$\begin{aligned} & (\text{Gallons/Day}) \times (\text{Pounds/Gallon}) \times (\text{Weight Percent VOC or TCE}) \times \\ & (365 \text{ Days/Year}) \times (1 \text{ Ton}/2,000 \text{ Pounds}) = \text{Tons/Year VOC or TCE} \end{aligned}$$

All potential emission calculations and selected manufacturer’s data regarding the air pollution control devices are contained in the permit application, which is attached to this Technical Support Document.

4. Conclusion

Based on information provided by Water Gremlin Company, MPCA has reasonable assurance that the proposed operation of the emission facility, as described in Air Emission Permit No. 12300341-001 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
Jim Robin