

AIR EMISSION PERMIT NO. 09300001- 002

IS ISSUED TO

THE CITY OF LITCHFIELD

421 West 3rd Street
Litchfield, Meeker County, MN 55355

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 | 05/25/2007 |

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: Federal; Pt 70/Limits to Avoid NSR

Authorization to Construct and Operate Issuance Date: March 4, 2008

Final Permit Issuance Date: March 18, 2008

Expiration: March 18, 2013
All Title I Conditions do not expire.

Jeff J. Smith, 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:

The city of Litchfield currently owns and operates two 2,880 brake horsepower (bhp) Fairbanks Morse internal combustion engines that are used to generate electricity during peak power demand. These engines are permitted to run on natural gas and No. 2 fuel oil (diesel) or a combination of the two.

This permit is for the construction of five new 3,292 brake horsepower (bhp) Caterpillar internal combustion engines. These engines will be constructed in a new building located on the same property as the existing facility. The addition of these engines requires the facility to obtain a Part 70 Total Facility Permit in order to take a federally enforceable limit of 235 tpy of NOx.

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-1

03/18/08

Facility Name: Litchfield city of

Permit Number: 09300001 - 002

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

Subject Item: Total Facility

| What to do | Why to do it |
|---|---|
| OPERATIONAL REQUIREMENTS | hdr |
| 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 |
| 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 |
| 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) |
| 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 control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices 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 practices, and the records kept to demonstrate plan implementation. | Minn. R. 7007.0800, subps. 14 and 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 |
| 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 |
| 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) |
| The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16. | Minn. R. 7007.0800, subp. 16 |
| PERFORMANCE TESTING | hdr |
| 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 |
| 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 The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018. | Minn. Rs. 7017.2030, subp. 1-4, 7017.2018 and Minn. R. 7017.2035, subp. 1-2 |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-2**

03/18/08

Facility Name: Litchfield city of

Permit Number: 09300001 - 002

| | |
|--|---|
| Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change. | Minn. R. 7017.2025, subp. 3 |
| MODELING REQUIREMENTS | hdr |
| Parameters Used in Modeling: The parameters used in the modeling performed for determining emission and/or operational limits for this facility are listed in Appendix B 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 parameter 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 the emission rates. The plume dispersion characteristics due to the parameter revisions must equal or exceed the dispersion characteristics modeled for this permit, and the Permittee shall demonstrate this in the proposal. | 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 |
| If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel. | continued from above |
| Parameters Used in Modeling (continued): Pollutant Emission Rates: If the Permittee proposes to emit any pollutant in addition to those listed in Appendix B of this permit, or proposes to increase the emission rate of any pollutant listed in Appendix B, the Permittee shall first use the City of Litchfield's Air Emissions Risk Analysis (AERA) report as a template for recalculating the risk due to the change in emissions. The Permittee shall submit a report to the MPCA of the proposed change and demonstrate that the recalculated risk for all pollutants emitted from the facility does not exceed the acceptable risk criteria used in the City of Litchfield's AERA report. The Permittee must receive written approval from the MPCA before making any changes. | continued from above |
| 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 require 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 the EPA Administrator and citizens under the Clean Air Act. | continued from above |
| 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) |
| 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) |
| RECORDKEEPING | hdr |
| 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) |
| 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) |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-3**

03/18/08

Facility Name: Litchfield city of

Permit Number: 09300001 - 002

| | |
|---|---|
| When the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. For nonexpiring permits, these records shall be kept for a period of five years from the date that the change was made. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format. | Minn. R. 7007.1200, subp. 4 |
| 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 |
| 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 on or before April 1 of each calendar year following permit issuance. The Permittee shall submit this on a form approved by the Commissioner. | Minn. R. 7019.3000 through Minn. R. 7019.3100 |
| 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**A-4**

03/18/08

Facility Name: Litchfield city of

Permit Number: 09300001 - 002

Subject Item: GP 001 Old Engines**Associated Items:** EU 001 East Fairbanks Morse IC Engine

EU 002 West Fairbanks Morse IC Engine

SV 001 Stack for EU 001

SV 002 Stack for EU 002

| What to do | Why to do it |
|--|---|
| EMISSION LIMITS | hdr |
| Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained. | Minn. R. 7011.2300, subp. 1 |
| Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input | Minn. R. 7011.2300, subp. 2 |
| OPERATING CONDITIONS | hdr |
| Fuel type: Natural gas and No. 2 fuel oil (dual fuel), or No. 2 fuel oil only. | Minn. R. 7005.0100, subp. 35a |
| Operating Hours: less than or equal to 2,000 hours/year using 12-month Rolling Sum | Title I Condition: To avoid major source thresholds under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800 subp. 2 |
| The exhaust stacks will have the following dimensions: Stack Height: greater than or equal to 98.4 feet (30.0 m) high; Stack Diameter: less than or equal to 20 inches (0.5 m) of inside diameter. This requirement is effective on the date of initial startup of any EU003-007. | 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 |
| PERFORMANCE TESTING | hdr |
| Initial Performance Test: due 180 days after Permit Issuance to evaluate NOx emission factor of 11 g/bhp-hr. This is equivalent to 69.84 lb/hr. Testing shall be conducted on one engine, and all future tests shall be conducted on an emission unit that has not been tested. After all units have been tested, testing shall be conducted on the unit for which testing is least current. | Minn. R. 7017.2020, subp. 1 |
| Performance Test Notifications and Submittals; 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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018. | Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018; Minn. R. 7017.2035, subp. 1-2 |
| Application for Major Amendment Required: If any GP 001 NOx emission factor evaluation test measures NOx emissions greater than 11 g/bhp-hr, the Permittee shall submit a complete application for a major permit amendment to adjust the GP 001 operating hour limit. The application shall be submitted within 30 days after the Permittee's receipt of the test report (from the testing company), indicating emissions greater than 11 g/bhp-hr. The application shall include a proposed revised operating hour limit to restrict GP 001 and GP 002 NOx emissions to a maximum of 235 tons per year (12-month rolling sum basis) based on the actual value of the emission factor that was measured greater than 11 g/bhp-hr. | Minn. R. 7007.0800, subp. 2 |
| RECORDKEEPING REQUIREMENTS | hdr |
| Monthly Recordkeeping - Operating Hours. By the 15th of the month, the Permittee shall calculate and record the following: 1) The total operating hours of each engine in the group for the previous calendar month. 2) The total GP001 operating hours for the previous month. 3) The 12 month GP001 rolling sum operating hours for the previous 12 month period by summing the monthly operating hours data for the previous 12 months. | Title I Condition: To avoid major source thresholds under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800 subp. 2 |
| Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of No. 2 fuel oil, certifying that the sulfur content does not exceed 0.05% by weight. | Minn. R. 7007.0800, subps. 4 & 5 |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-5**

03/18/08

Facility Name: Litchfield city of

Permit Number: 09300001 - 002

Subject Item: GP 002 New Engines**Associated Items:** EU 003 IC Engine #3

EU 004 IC Engine #4

EU 005 IC Engine #5

EU 006 IC Engine #6

EU 007 IC Engine #7

SV 003 Stack for EU 003

SV 004 Stack for EU 004

SV 005 Stack for EU 005

SV 006 Stack for EU 006

SV 007 Stack for EU 007

| What to do | Why to do it |
|--|--|
| ACID RAIN REQUIREMENTS | hdr |
| Each emission unit in GP 002 is a "new utility unit" as defined in 40 CFR Section 72.2, and is exempt from the Acid Rain Program requirements as provided by 40 CFR Section 72.7(a). Although each unit is not an affected unit (as defined in Section 72.2), each unit is subject to the requirements of Section 72.7, Section 72.8, or Section 72.14, as applicable to the exemption. | 40 CFR Section 72.6(b)(9) |
| Average Annual Sulfur Content Determination: The annual average sulfur content, as a percentage by weight, shall be calculated using the equation at 40 CFR Section 72.7(d)(2) as modified by Section 72.7(d)(3). This equation is in Appendix C of this permit. | 40 CFR Section 72.7(d)(3) |
| EMISSION LIMITS | hdr |
| Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained. | Minn. R. 7011.2300, subp. 1 |
| Exhaust Opacity: Less than or equal to: 1. 20 percent during the acceleration mode 2. 15 percent during the lugging mode; and 3. 50 percent during the peaks in either the acceleration or lugging modes. | 40 CFR Section 60.4202(a)(2); 40 CFR Section 89.113(a) |
| Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input | Minn. R. 7011.2300, subp. 2 |
| Nitrogen Oxides: less than or equal to .020283 lbs/kilowatt-hour . This limit is equivalent to 9.2 g/kw-hr, or 6.9 g/hp-hr. | 40 CFR Section 60.4204(b) 40 CFR Section 60.4201(b) |
| Carbon Monoxide: less than or equal to 0.025132 lbs/kilowatt-hour . This limit is equivalent to 11.4 lb/kw-hr, or 8.5 g/hp-hr. | 40 CFR Section 60.4204(b) 40 CFR Section 60.4201(b) |
| Total Particulate Matter: less than or equal to 0.001190 lbs/kilowatt-hour . This limit is equivalent to 0.54 lb/kw-hr, or 0.40 g/h-hr. | 40 CFR Section 60.4204(b) 40 CFR Section 60.4201(b) |
| Hydrocarbons: less than or equal to 0.002866 lbs/kilowatt-hour. This limit is equivalent to 1.3 g/kw-hr, or 1.0 g/hp-hr. | 40 CFR Section 60.4204(b) 40 CFR Section 60.4201(b) |
| OPERATING CONDITIONS | hdr |
| Fuel type: No. 2 fuel oil only. | Minn. R. 7005.0100, subp. 35a |
| Fuel Type: Diesel fuel must meet the requirements of 40 CFR 80.510(a), which requires that diesel fuel have a maximum sulfur content of 500 parts per million and either a minimum cetaine index of 40 or a maximum aromatic content of 35 volume percent. If the generator was manufactured before 2011, the Permittee may petition the Administrator for approval to use existing non-compliant diesel fuel inventories for up to six months or until exhausted, whichever comes first. If additional time is needed, the Permittee must submit a new application to the Administrator. | 40 CFR Section 60.4207(a); 40 CFR Section 60.4207(c); 40 CFR Section 80.510(a) |
| Fuel Type: Diesel fuel must meet the requirements of 40 CFR 80.510(b), which requires that diesel fuel have a maximum sulfur content of 15 parts per million and either a minimum cetaine index of 40 or a maximum aromatic content of 35 volume percent. This rule is applicable beginning October 1, 2010. If the generator was manufactured before 2011, the Permittee may petition the Administrator for approval to use existing non-compliant diesel fuel inventories for up to six months or until exhausted, whichever comes first. If additional time is needed, the Permittee must submit a new application to the Administrator. | 40 CFR Section 60.4207(b); 40 CFR Section 60.4207(c); 40 CFR Section 80.510(b) |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-6**

03/18/08

Facility Name: Litchfield city of

Permit Number: 09300001 - 002

| | |
|---|---|
| Operating Hours: less than or equal to 8,000 hours/year using 12-month Rolling Sum to be calculated by the 15th day of each month. This limit is for EU's 003-007 combined. | Title I Condition: To avoid major source thresholds under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800 subp. 2 |
| Emission Standards: The Permittee shall operate and maintain the unit in accordance with the standards as required by 40 CFR 60.4205, according to the manufacturer's written instructions, or according to procedures developed by the owner or operator that are approved by the engine manufacturer, for the entire life of the engine. Settings for the unit may not be changed unless permitted by the manufacturer. | 40 CFR Section 60.4206; 40 CFR Section 60.4211(a) |
| The exhaust stacks will have the following dimensions: Stack Height: greater than or equal to 85.3 feet (26.0 m) high; Stack Diameter: less than or equal to 18 inches (.457 m) of inside diameter. | 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 |
| PERFORMANCE TESTING | hdr |
| Initial Performance Test: due 180 days after Initial Startup to evaluate NOx emission factor of 5.70 g/bhp-hr and to demonstrate compliance with 40 CFR Section 60 subp. IIII. This is equivalent to 41.37 lb/hr. Testing shall be conducted on one engine, and all future tests shall be conducted on an emission unit that has not been tested. After all units have been tested, testing shall be conducted on the unit for which testing is least current. | Minn. R. 7017.2020, subp. 1; 40 CFR Section 60.4211(d)(1) |
| Performance Test Notifications and Submittals; 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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018. | Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 ; Minn. R. 7017.2035, subp. 1-2 |
| Performance Testing: When the Permittee conducts performance tests, the tests must be completed in accordance with 40 CFR 60.4212(a)-(d). | 40 CFR Section 60.4212 |
| Application for Major Amendment Required: If any GP 002 NOx emission factor evaluation test measures NOx emissions greater than 5.70 g/bhp-hr, the Permittee shall submit a complete application for a major permit amendment to adjust the GP 001 operating hour limit. The application shall be submitted within 30 days after the Permittee's receipt of the test report (from the testing company), indicating emissions greater than 5.70g/bhp-hr. The application shall include a proposed revised operating hour limit to restrict GP 001 and GP 002 NOx emissions to a maximum of 235 tons per year (12-month rolling sum basis) based on the actual value of the emission factor that was measured greater than 5.70 g/bhp-hr. | Minn. R. 7007.0800, subp. 2 |
| RECORDKEEPING REQUIREMENTS | hdr |
| Keep records of the following: i) All notifications submitted to comply with this subpart and all documentation supporting any notification. ii) Maintenance conducted on the engine. iii) Documentation from the manufacturer that the engine is certified to meet the emission standards. | 40 CFR Section 60.4214(a)(2) |
| Monthly Recordkeeping - Operating Hours. By the 15th of the month, the Permittee shall calculate and record the following: 1) The total operating hours of each engine in the group for the previous calendar month. 2) The total GP002 operating hours for the previous month. 3) The 12 month GP002 rolling sum operating hours for the previous 12 month period by summing the monthly operating hours data for the previous 12 months. | Title I Condition: To avoid major source thresholds under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800 subp. 2 |
| Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of No. 2 fuel oil, certifying that the sulfur content does not exceed 0.05% by weight. | Minn. R. 7007.0800, subps. 4 & 5 |

TABLE B: SUBMITTALS

B-1 03/18/08

Facility Name: Litchfield city of
Permit Number: 09300001 - 002

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.

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

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 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 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.

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS**B-2** 03/18/08

Facility Name: Litchfield city of

Permit Number: 09300001 - 002

| What to send | When to send | Portion of Facility Affected |
|--|---|-----------------------------------|
| Application for Permit Reissuance | due 180 days before expiration of Existing Permit | Total Facility |
| Notification of the Actual Date of Initial Startup | due 15 days after Initial Startup | EU003, EU004, EU005, EU006, EU007 |
| Notification of the Date Construction Began | due 30 days after Start Of Construction. Also include the following: i) Name and address of the owner or operator; ii) The address of the affected source; iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement; iv) Emission control equipment; and v) Fuel used. | EU003, EU004, EU005, EU006, EU007 |
| Testing Frequency Plan | due 60 days after Initial Performance Test for NOx emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA. | GP001, GP002 |

TABLE B: RECURRENT SUBMITTALS**B-3** 03/18/08

Facility Name: Litchfield city of

Permit Number: 09300001 - 002

| 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). The Permittee shall submit this on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year. | Total Facility |

APPENDIX MATERIAL

Facility Name: City of Litchfield

Permit Number: 09300001-002

Appendix A: Insignificant Activities

| Minn. R. 7007.1300, subpart | Rule Description of the Activity | Applicable Requirements |
|-----------------------------------|---|-------------------------|
| 4 | <p>At a Part 70 facility, individual emissions units with emissions less than all the following limits but not included in subpart 2:</p> <p>A. potential emissions of 5.7 pounds per hour or actual emissions of two tons per year of carbon monoxide;</p> <p>B. potential emissions of 2.28 pounds per hour or actual emissions of one ton per year for particulate matter, particulate matter less than ten microns, nitrogen oxide, sulfur dioxide, and VOCs; and</p> <p>C. for hazardous air pollutants, emissions units with:</p> <p>(1) potential emissions of 25 percent or less of the hazardous air pollutant thresholds listed in subpart 5; or</p> <p>(2) combined HAP actual emissions of one ton per year unless the emissions unit emits carbon tetrachloride; 1,2-dibromo-3-chloropropane; ethylene dibromide; hexachlorobenzene; polycyclic organic matter; antimony compounds; arsenic compounds, including inorganic arsine; cadmium compounds; chromium compounds; lead compounds; manganese compounds; mercury compounds; nickel compounds; selenium compounds; 2,3,7,8-tetrachlorodibenzo-p-dioxin; or dibenzofuran.</p> <p>Bryan Boiler (used for building heat)</p> | Minn. R. 7011.0710/0715 |

Appendix B: Air Modeling Parameters

| | | LOCATION | | CRITERIA POLLUTANT EMISSION RATE (g/s) | | | | STACK PARAMETERS | | | | | | |
|----------|--------------|----------|----------|---|--------|-------|-------|-----------------------|--------------------------|---------------------------|---------------------------|---------------------------|----------------------------|-------------|
| Stack ID | Source Group | Easting | Northing | NOx | SO2 | CO | PM10 | Base Height (m) | Release Height (m) | Inside Diameter (m) | Exhaust Flow (ACFM) | Exit Velocity (m/s) | Exit Temperature (K) | Orientation |
| SV001 | IC & ALL | 379288 | 4998310 | 8.800 | 0.147 | 1.440 | 0.254 | 342 | 30.0 | 0.51 | 25,740 | 59.9 | 622 | Up, no cap |
| SV002 | IC & ALL | 379294 | 4998353 | 8.800 | 0.147 | 1.440 | 0.254 | 342 | 30.0 | 0.51 | 25,740 | 59.9 | 622 | Up, no cap |
| SV003 | IC & ALL | 379207 | 4998353 | 5.213 | 0.183 | 0.507 | 0.037 | 342 | 26.0 | 0.46 | 17,668 | 50.8 | 751 | Up, no cap |
| SV004 | IC & ALL | 379211 | 4998353 | 5.213 | 0.183 | 0.507 | 0.037 | 342 | 26.0 | 0.46 | 17,668 | 50.8 | 751 | Up, no cap |
| SV005 | IC & ALL | 379215 | 4998353 | 5.213 | 0.183 | 0.507 | 0.037 | 342 | 26.0 | 0.46 | 17,668 | 50.8 | 751 | Up, no cap |
| SV006 | IC & ALL | 379219 | 4998353 | 5.213 | 0.183 | 0.507 | 0.037 | 342 | 26.0 | 0.46 | 17,668 | 50.8 | 751 | Up, no cap |
| SV007 | IC & ALL | 379223 | 4998353 | 5.213 | 0.183 | 0.507 | 0.037 | 342 | 26.0 | 0.46 | 17,668 | 50.8 | 751 | Up, no cap |
| SVHEAT | HEAT & ALL | 379269 | 4998339 | 0.040 | 0.0002 | 0.033 | 0.002 | 342 | 10.1 | 0.56 | 800 | 0.001 | 478 | Up, Cap |

APPENDIX C: 40 CFR §72.7(d)(2) Equation For Determination Of Average Annual Sulfur Content

$$\%S_{annual} = \frac{\sum_{n=1}^{last} \%S_n V_n d_n}{\sum_{n=1}^{last} V_n d_n}$$

where:

$\%S_{annual}$ = annual average sulfur content of the fuel burned during the year by the unit, as a percentage by weight;

$\%S_n$ = sulfur content of the n^{th} sample of the fuel delivered during the year to the unit, as a percentage by weight;

V_n = volume of the fuel in a delivery during the year to the unit of which the n^{th} sample is taken, in standard cubic feet; or, for fuel delivered during the year to the unit continuously by pipeline, volume of the fuel delivered starting from when the n^{th} sample of such fuel is taken until the next sample of such fuel is taken, in standard cubic feet;

d_n = density of the n^{th} sample of the fuel delivered during the year to the unit, in pounds per standard cubic foot; and

n = each sample taken of the fuel delivered during the year to the unit, taken at least once for each delivery; or, for fuel that is delivered during the year to the unit continuously by pipeline, at least once each quarter during which the fuel is delivered.

Note: as specified by §72.7(d)(3), in lieu of the factor, volume times density ($V_n d_n$), in the equation, the factor, mass (M_n), may be used, where M_n is mass of the nongaseous fuel in a delivery during the year to the unit of which the n^{th} sample is taken, in pounds; or, for fuel delivered during the year to the unit continuously by pipeline, mass of the nongaseous fuel delivered starting from when the n^{th} sample of such fuel is taken until the next sample of such fuel is taken, in pounds.

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 09300001-002

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 determination to issue the permit.

1. General Information

1.1. Applicant and Stationary Source Location:

| Applicant/Address | Stationary Source/Address (SIC Code: 4911) |
|--|--|
| City Administrator 126 North Marshall Litchfield, MN 55355 | 421 West 3rd Street Litchfield, MN 55355 Meeker County |
| Contact: Bruce Miller Phone: 320-693-7201 | |

1.2. Facility Description

The City of Litchfield currently owns and operates two 2,880 brake horsepower (bhp) Fairbanks Morse internal combustion engines that are used to generate electricity during peak power demand. These engines are permitted to run on natural gas and No. 2 fuel oil (dual fuel mode) or on only No. 2 fuel oil (diesel).

1.3 Description of any Changes Allowed with this Permit Issuance

This permit is for the construction of five new 3,292 brake horsepower (bhp) Caterpillar internal combustion engines. These engines will be constructed in a new building located on the same property as the existing facility. The addition of these engines requires the facility to obtain a Part 70 Total Facility Permit in order to take a federally enforceable limit of 235 tpy of NOx. The name of the facility was changed from Litchfield Municipal Utilities Commission to City of Litchfield.

1.4 Permit History

| Permit Number and Issuance Date | Action Authorized |
|------------------------------------|-------------------------------|
| 09300001-001 5/4/1995 | Registration Permit, Option C |

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary

| | PM tpy | PM ₁₀ tpy | SO ₂ tpy | NO _x tpy | VOC tpy | CO tpy | Single HAP tpy | All HAPs tpy |
|--|-----------|-------------------------|------------------------|------------------------|------------|-----------|----------------------|--------------------|
| Total Facility Limited Potential Emissions | 3.18 | 3.18 | 6.76 | 235.32 | 19.32 | 27.51 | 0.34 | 0.66 |

Table 2. Facility Classification

| Classification | Major/Affected Source | Synthetic Minor | Minor |
|------------------------|----------------------------------|------------------------|--------------|
| PSD | | X | |
| Part 70 Permit Program | X | | |
| Part 63 NESHAP | | | X |

2. Regulatory and/or Statutory Basis

New Source Review

The facility has taken limits to be a synthetic minor source under New Source Review regulations. No changes are authorized by this permit.

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

The engines in GP002 are subject to NSPS IIII, "Stationary Compression Ignition Internal Combustion Engines."

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is a minor (area) source of HAPs. No area source NESHAPs apply to this facility, and therefore the facility is not subject to 40 CFR Part 63.

Minnesota State Rules

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

- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

Table 3. Regulatory Overview of Facility

| EU, GP, or SV | Applicable Regulations | Comments: |
|---------------|--------------------------------|--|
| GP001 | Minn. R. 7011.2300 | Standards of Performance for Stationary Internal Combustion Engines |
| GP001 | Title I Condition | Operating Hour limits were included to limit the facility to 235 tpy of NOx to avoid classification as a major source under PSD. |
| GP001 | Minn. R. 7007.0800 subp. 2 | Stack height requirements derived from computer dispersion modeling. |
| GP002 | Minn. R. 7011.2300 | Standards of Performance for Stationary Internal Combustion Engines |
| GP002 | 40 CFR Section 60 Subpart IIII | EUs 003-007 are subject to NSPS IIII. These engines are post-2007 model, non-emergency engines, greater than 2,237 KW (3,000 HP), and have a displacement of less than 10 liters per cylinder. |
| GP002 | Title I Condition | Operating Hour limits were included to limit the facility to 235 tpy of NOx to avoid classification as a major source under PSD. |
| GP002 | Minn. R. 7007.0800 subp. 2 | Stack height requirements derived from computer dispersion modeling. |

3.0 Technical Information

3.1 AERA and Air Dispersion Modeling

The addition of the five new internal combustion engines caused an increase of over 100 tons of potential NOx emissions; therefore, an Air Emissions Risk Analysis was required. However, limits were taken by the facility to keep NOx emissions under 250 tpy, so an Environmental Assessment Worksheet (EAW) was not required. The chronic risk potential from the facility was not of concern. The acute risk was determined to be approximately 1 and the Risk Managers determined the risk to be acceptable after further analysis by the risk assessors.

Modeling provided by the Permittee was checked and the facility models compliance with the Minnesota Ambient Air Quality Standards (MAAQS).

More complete information is available in attachments 3 and 4 to this TSD.

3.2 Calculations of Potential to Emit

Attachment 1 to this TSD contains a summary the PTE of the Facility, and detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

3.2 Periodic Monitoring

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

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

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

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

Table 4. Periodic Monitoring

| Emission Unit or Group | Requirement (basis) | Additional Monitoring | Discussion |
|-------------------------------|--------------------------------|--|--|
| GP001 | Title I Condition | Initial Performance test 180 days after permit issuance. | In order to ensure that the emissions are less than the manufacturer's guarantee. |
| | Operating Limit of 2,000 Hours | Recordkeeping | The facility has taken operating limits to avoid classification as a major source under PSD. |
| GP002 | Title I Condition | Initial Performance test 180 days after initial startup. | In order to ensure that the emissions are less than the manufacturer's guarantee. |
| | Operating Limit of 8,000 Hours | Recordkeeping | The facility has taken operating limits to avoid classification as a major source under PSD. |

3.3 Insignificant Activities

The City of Litchfield has several operations which are classified as insignificant activities. These are listed in Appendix A to the permit.

Table 5. Insignificant Activities

| Minn. R. 7007.1300, subpart | Rule Description of the Activity | Applicable Requirements |
|--|---|-------------------------------------|
| 4 | <p>At a Part 70 facility, individual emissions units with emissions less than all the following limits but not included in subpart 2:</p> <p>A. potential emissions of 5.7 pounds per hour or actual emissions of two tons per year of carbon monoxide;</p> <p>B. potential emissions of 2.28 pounds per hour or actual emissions of one ton per year for particulate matter, particulate matter less than ten microns, nitrogen oxide, sulfur dioxide, and VOCs; and</p> <p>C. for hazardous air pollutants, emissions units with:</p> <p>(1) potential emissions of 25 percent or less of the hazardous air pollutant thresholds listed in subpart 5; or</p> <p>(2) combined HAP actual emissions of one ton per year unless the emissions unit emits carbon tetrachloride; 1,2-dibromo-3-chloropropane; ethylene dibromide; hexachlorobenzene; polycyclic organic matter; antimony compounds; arsenic compounds, including inorganic arsine; cadmium compounds; chromium compounds; lead compounds; manganese compounds; mercury compounds; nickel compounds; selenium compounds; 2,3,7,8-tetrachlorodibenzo-p-dioxin; or dibenzofuran.</p> <p>Bryan Boiler (used for building heat)</p> | <p>Minn. R. 7011. 0710/0715</p> |

3.4 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements.

3.5 Comments Received

Public Notice Period: 2/1/08 – 3/3/08

EPA 45-day Review Period: 2/1/08 – 3/17/08

Comments were not received from the public during the public notice period.

4. Conclusion

Based on the information provided by the City of Litchfield, the MPCA has reasonable assurance that the operation of the emission facility, as described in the Air Emission Permit No. 09300001-002 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Chris Buntjer (permit writer/engineer)
Dave Crowell (enforcement)
Sean O'Conner (stack testing)
Lance Breitenbach (air modeling)
Kristie Ellickson (risk assessment)
Mary Dymond (risk assessment)
Marshall Cole (peer reviewer)

AQ File No. 714; DQ 1540

Attachments: 1. PTE Summary and Calculation Spreadsheets
2. Facility Description and CD-01 Forms
3. AERA Forms
4. Risk Managers Memo