

AIR EMISSION PERMIT NO. 13700013-003

IS ISSUED TO

Minnesota Power, Inc.

Minnesota Power, Inc. - Laskin Energy Center
County Road 633
Aurora, St. Louis County, MN 55705

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 | 09/15/1995 |
| Major Amendment | 12/23/1997 |
| Minor Amendment | 02/11/2002 |

This permit authorizes the permittee to operate and modify the stationary source at the address listed above unless otherwise noted in Table A. The permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal; Part 70

Issue Date: June 4, 2002

Expiration: May 12, 2002

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

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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.

The permit shield, however does not apply to:

The state noise pollution control rules, Minn. R. ch. 7030.

FACILITY DESCRIPTION:

The Laskin Energy Center (LEC) is an electric generating facility located near Aurora, Minnesota. This electric power facility contains two steam generating boilers, coal receiving, handling, and storage facilities, and ash handling and storage capabilities. The net generating capacity is 110 megawatts (MW) when firing bituminous coal alone or subbituminous coal and waste oil/solvent simultaneously. The net generating capacity is 82 MW when burning subbituminous coal alone.

This permit amendment allows the Permittee to replace the 12 existing distillate oil-fired ignitors in Boilers 1 and 2, with 12 new ignitors that can burn distillate oil and natural gas. To accommodate this, natural gas has been added to the list of permitted fuels.

The new ignitors will be the same size as the existing ignitors. The 12 ignitors per boiler have a heat input rating of 4 mmBtu/hr per ignitor. The ignitors are primarily used for unit startup, but are also used when subbituminous coal is burned to increase heat input capacity when necessary. The Permittee anticipates replacing the ignitors in Boiler 2 in 2002, and in Boiler 1 in 2003 or 2004.

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

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 |
|---|--|
| The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16. | Minn. R. 7007.0800, subp. 16 |
| 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 |
| Comply with Fugitive Emissions Control Plan: Follow the actions and record keeping specified in the control plan. The plan may be amended with the Commissioner's approval. If the Commissioner determines that you are out of compliance with Minn. R. 7011.0150 or the control plan, then you may be required to amend the control plan and/or install and operate particulate matter ambient monitors. | Minn. Stat. Section 116.07, subd. 4a and Minn. R. 7007.0800, subp. 2 |
| 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. | Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J) |
| 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, such as for system breakdowns, repairs, calibration checks, and zero and span adjustments (as applicable). Monitoring records should reflect any such periods of process shutdown. | Minn. R. 7007.0800, subp. 4(D) |
| Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued. | Minn. R. 7007.0800, subp. 4(D) |
| 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) |
| For all rotoclones controlling emissions from solid fuel handling equipment: 1. Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection. 2. Inspect monthly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection. 3. Check visible emissions once every 48 hours. If visible emissions exist, inspect equipment for evidence of malfunction. Record results of the inspection, and any corrective action taken. | Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2 |
| Oily Cellulose-Based Sorbents (including rags): Limit combustion to (for the entire facility): 1) cellulose based only, 2) 25 tons per year, and 3) 1.25 tons per hour. | Title I Condition: to ensure that the emissions increase from the addition of the fuel type is less than significant as defined by 40 CFR Section 52.21; and Minn. R. 7007.0800, subp. 2 |
| 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 |
| 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 |

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

| | |
|---|---|
| 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 |
| 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 |
| Shutdown and Breakdown Reporting Requirement for the Dust Collector Systems for Material Handling Equipment: Shutdowns and breakdowns shall be reported on a quarterly basis to the Agency. The quarterly report shall include an identification of the dust collector that broke down or was shutdown, the time and reason for the breakdown or shutdown, a description of any repairs made, and the date and time the dust collector was placed back in service. | Minn. R. 7019.1000, subp. 2 |
| Application for Permit Amendment: If you need a permit amendment, submit 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 |
| Emission Fees: due 60 days after receipt of an MPCA bill | Minn. R. 7002.0005 through Minn. R. 7002.0095 |
| Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises, to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location. The Permittee may require that MPCA inspectors be accompanied by MP staff during the inspection. Permittee's staff shall be available whenever the plant is operating. | Minn. R. 7007.0800, subp. 9(A) |
| Record keeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes. | Minn. R. 7007.0800, subp. 5(B) |
| Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart 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) |
| 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) |
| 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 requirement only and is not federally enforceable. | Minn. R. 7030.0010-7030.0080 |
| 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 |

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

Subject Item: SV 001**Associated Items:** EU 001 Boiler 1

EU 002 Boiler 2

MR 001

MR 002

MR 003

MR 004

MR 005

| What to do | Why to do it |
|---|---|
| COMS Monitoring Data: Owners or operators of all COMS shall reduce all data to a one-minute averaging period. Opacity averages shall be calculated from all equally spaced consecutive 10-second (or shorter) data points in the one-minute averaging period. | Minn. R. 7007.0800, subp. 2 |
| COMS Calibration Error Audit: due before end of each calendar half-year following COMS Certification Test. Conduct audits at least 3 months apart but no greater than 8 months apart. | Minn. R. 7007.0800, subp. 2 |
| COMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all COMS shall be in continuous operation. | Minn. R. 7007.0800, subp. 2 |
| COMS Daily Calibration Drift (CD) Check: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily. The COMS must be adjusted whenever the calibration drift (CD) exceeds twice the specification of PS-1 of 40 CFR 60, Appendix B. | Minn. R. 7017.1000; Minn. R. 7007.0800, subp. 2 |
| Recordkeeping: The owner or operator must retain records of all COMS/CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement, or report. Records shall be kept at the source. | Minn. R. 7007.0800, subp. 5 |
| CEMS QA/QC The owner or operator of an affected facility shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 75, Appendix B as amended. | 40 CFR Section 75.21 |
| Daily Calibration Error (CE) Test: conduct daily CE testing on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75 App B. | 40 CFR pt. 75 App B, section 2.1 |
| CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test (or due each year, depending on the results of the previous test). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75 App B. If the RATA results indicate a relative accuracy of 7.5% or less, the next RATA is not required for another year. | 40 CFR pt. 75 App B, section 2.3 |
| Linearity and Leak Check Test (Acid Rain Program): due before end of each calendar quarter following CEM Certification Test. Conduct a quarterly linearity test on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75 App B. | 40 CFR pt. 75 App B, section 2.2 |

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

Subject Item: EU 001 Boiler 1**Associated Items:** CE 001 Alkaline Fly Ash Scrubbing

SV 001

| What to do | Why to do it |
|---|--|
| Total Particulate Matter: less than or equal to 0.6 lbs/million BTU heat input | Minn. R. 7011.0510, subp. 1 |
| Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one six-minute period per hour of not more than 60 percent opacity. | Minn. R. 7011.0510, subp. 2 |
| Sulfur Dioxide: less than or equal to 4.0 lbs/million BTU heat input using 1 Hour Average period for solid fuels, and 2.0 lb/mmBtu when burning liquid fuels. When fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula: $w = [2y + 4z] / (y + z)$ where y is the % heat input from liquid fossil fuel and z is the % heat input from solid fossil fuels. | Minn. R. 7011.0510, subp. 1 |
| Comply with the applicable Acid Rain emissions limitation for sulfur dioxide. Takes effect for years beginning January 1, 2000. | 40 CFR Section 72.9(c)(1)(ii), 40 CFR Section 72.9(g)(4) |
| NOx Averaging Plan Beginning January 1, 2000 either: Maintain an annual average NOx emission rate of 0.50 lbs/MMBtu and limit the annual heat input to less than or equal to 3,500,000 MMBtu per year. OR Maintain a Btu-weighted annual average emission rate in lbs/MMBtu, averaged over the units specified in the NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: Plant Boiler ID# Clay Boswell 1, 2, 4 Syl Laskin 1, 2 | 40 CFR Section 76.11 |
| Application for NOx limits: Submit a complete permit application and compliance plan for NOx emissions in accordance with 40 CFR Section 76.9. | 40 CFR Section 76.9(b)(2) |
| Fuel use: limited to sub-bituminous and bituminous coal, distillate oil, natural gas, boiler cleaning agents, non-hazardous petroleum distillate solvents and derived fuels, used oil, oily coal (coal with oil spilled on it), and oily cellulose-based sorbents (including rags). | Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2 |
| Boiler cleaning agents limited to: EDTA type and Ammonium Bromate, are generated on-site, 5% of total fuel mass, oxygen limited to 3% or greater, agents may only be burned while the boiler is operating at 75 percent of rated capacity or greater. | Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2 |
| Burn off-specification and on-specification used oil in accordance with Minn. R. ch. 7045, not to exceed 720 gallons per hour and 2,500,000 gallons annually. | Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2 |
| The Permittee shall burn the same fuel in EU 001 and EU 002 at any time, in order to use the SV 001 SO2 CEM to measure EU 001 and EU 002 SO2 emissions. Before the Permittee is allowed to simultaneously burn different fuels in EU 001 and EU 002, the Permittee shall conduct air dispersion modeling for SV 001 SO2 emissions, and demonstrate that emissions from SV 001 at a rate of 4.0 lb SO2/MMBtu do not cause or contribute to a violation of any SO2 ambient air quality standard. | Minn. R. 7007.0800, subp. 2 |
| Performance Test: due before end of each 60 months following Initial Performance Test to determine compliance with the particulate matter emissions limit in Minn. R. 7011.0510 subp 1. The tests shall be conducted at an interval not to exceed 60 months between test dates. | Minn. R. 7017.2020, subp. 1 |
| Performance Test Pre-test Meeting: due 7 days before end of each 60 months following Initial Performance Test (7 days before each Performance Test) for particulate matter | Minn. R. 7017.2030, subp. 4 |

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

| | |
|--|---|
| <p>Boiler Alternative Operating Conditions for Performance Testing:</p> <p>Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p> | Minn. R. 7017.2025, subp. 2.A. and 3.B. |
| <p>Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing:</p> <p>If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following:</p> <p>(1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate.</p> <p>(2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to the tested operating rate.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p> | Minn. R. 7017.2025, subp. 3.B. |
| <p>STET (Short Term Emergency and Testing) Operating hours limit:</p> <p>The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>If performance test results demonstrate compliance at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average operating rate achieved during that performance test.</p> <p>If performance test results demonstrate compliance at greater than 80% of any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.</p> | Minn. R. 7017.2020, subp. 4 |
| <p>Recordkeeping: Keep on site at the source each of the following documents for a period of 5 years from the date the document is created: The certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, copies of all documents used to complete an acid rain permit application.</p> | 40 CFR Section 72.9(f)(I) |
| <p>Recordkeeping: maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including malfunction of the air pollution control equipment or any periods during which a continuous monitoring system or monitoring device is inoperative.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>Apply for Acid Rain Program Permit reissuance: The designated representative shall submit a complete Acid Rain permit application for each source with an affected unit at least 6 months prior to the expiration of an existing Acid Rain Permit in accordance with 40 CFR Section 72.30(c).</p> | 40 CFR Section 72.30(c) |
| <p>Certify Acid Rain Program submittals. Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative or the alternate designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.</p> | 40 CFR Section 72.21 |

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

| | |
|---|---|
| Hold allowances as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year. Takes effect for years beginning January 1, 2000. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program. | 40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4) |
| The owner or operator shall measure opacity, and all SO ₂ , NO _x , and CO ₂ emissions for each affected unit in accordance with 40 CFR Section 75.10. | 40 CFR Section 75.10 |
| Excess emissions and monitoring system performance reports shall include the information required in 40 CFR Section 60.7(c) and (d). MPCA supplied forms DRF-1 and DRF-2 may be used to meet this requirement. | Minn. R. 7007.0800, subp. 2 |

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

Subject Item: EU 002 Boiler 2**Associated Items:** CE 002 Alkaline Fly Ash Scrubbing

SV 001

| What to do | Why to do it |
|---|--|
| Total Particulate Matter: less than or equal to 0.6 lbs/million BTU heat input | Minn. R. 7011.0510, subp. 1 |
| Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one six-minute period per hour of not more than 60 percent opacity. | Minn. R. 7011.0510, subp. 2 |
| Sulfur Dioxide: less than or equal to 4.0 lbs/million BTU heat input using 1 Hour Average period for solid fuels, and 2.0 lb/mmBtu when burning liquid fuels. When fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula: $w = [2y + 4z] / (y + z)$ where y is the % heat input from liquid fossil fuel and z is the % heat input from solid fossil fuels. | Minn. R. 7011.0510, subp. 1 |
| Comply with the applicable Acid Rain emissions limitation for sulfur dioxide. Takes effect for years beginning January 1, 2000. | 40 CFR Section 72.9(c)(1)(ii), 40 CFR Section 72.9(g)(4) |
| NOx Averaging Plan Beginning January 1, 2000 either: Maintain an annual average NOx emission rate of 0.50 lbs/MMBtu and limit the annual heat input to less than or equal to 3,500,000 MMBtu per year. OR Maintain a Btu-weighted annual average emission rate in lbs/MMBtu, averaged over the units specified in the NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: Plant Boiler ID# Clay Boswell 1, 2, 4 Syl Laskin 1, 2 | 40 CFR Section 76.11 |
| Application for NOx limits: Submit a complete permit application and compliance plan for NOx emissions in accordance with 40 CFR ' 76.9. | 40 CFR Section 76.9(b)(2) |
| Fuel use: limited to sub-bituminous and bituminous coal, distillate oil, natural gas, boiler cleaning agents, non-hazardous petroleum distillate solvents and derived fuels, used oil, oily coal (coal with oil spilled on it), and oily cellulose-based sorbents (including rags). | Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2 |
| Boiler cleaning agents limited to: EDTA type and Ammonium Bromate, are generated on-site, 5% of total fuel mass, oxygen limited to 3% or greater, agents may only be burned while the boiler is operating at 75 percent of rated capacity or greater. | Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2 |
| Burn off-specification and on-specification used oil in accordance with Minn. R. ch. 7045, not to exceed 720 gallons per hour and 2,500,000 gallons annually. | Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2 |
| The Permittee shall burn the same fuel in EU 001 and EU 002 at any time, in order to use the SV 001 SO2 CEM to measure EU 001 and EU 002 SO2 emissions. Before the Permittee is allowed to simultaneously burn different fuels in EU 001 and EU 002, the Permittee shall conduct air dispersion modeling for SV 001 SO2 emissions, and demonstrate that emissions from SV 001 at a rate of 4.0 lb SO2/MMBtu do not cause or contribute to a violation of any SO2 ambient air quality standard. | Minn. R. 7007.0800, subp. 2 |
| Performance Test: due before end of each 60 months following Initial Performance Test to determine compliance with the particulate matter emissions limit in Minn. R. 7011.0510 subp. 1. The tests shall be conducted at an interval not to exceed 60 months between test dates. | Minn. R. 7017.2020, subp. 1 |
| Performance Test Pre-test Meeting: due 7 days before end of each 60 months following Initial Performance Test (7 days before each Performance Test) for particulate matter | Minn. R. 7017.2030, subp. 4 |

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

| | |
|--|---|
| <p>Boiler Alternative Operating Conditions for Performance Testing:</p> <p>Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p> | Minn. R. 7017.2025, subp. 2.A. and 3.B. |
| <p>Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing:</p> <p>If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following:</p> <p>(1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate.</p> <p>(2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to the tested operating rate.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p> | Minn. R. 7017.2025, subp. 3.B. |
| <p>STET (Short Term Emergency and Testing) Operating hours limit:</p> <p>The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>If performance test results demonstrate compliance at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average operating rate achieved during that performance test.</p> <p>If performance test results demonstrate compliance at greater than 80% of any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.</p> | Minn. R. 7017.2020, subp. 4 |
| <p>Recordkeeping: Keep on site at the source each of the following documents for a period of 5 years from the date the document is created: The certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, copies of all documents used to complete an acid rain permit application.</p> | 40 CFR Section 72.9(f)(I) |
| <p>Recordkeeping: maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including malfunction of the air pollution control equipment or any periods during which a continuous monitoring system or monitoring device is inoperative.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>Apply for Acid Rain Program Permit reissuance: The designated representative shall submit a complete Acid Rain permit application for each source with an affected unit at least 6 months prior to the expiration of an existing Acid Rain Permit in accordance with 40 CFR Section 72.30(c).</p> | 40 CFR Section 72.30(c) |
| <p>Certify Acid Rain Program submittals. Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative or the alternate designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.</p> | 40 CFR Section 72.21 |

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

| | |
|---|---|
| Hold allowances as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year. Takes effect for years beginning January 1, 2000. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program. | 40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4) |
| The owner or operator shall measure opacity, and all SO ₂ , NO _x , and CO ₂ emissions for each affected unit in accordance with 40 CFR Section 75.10. | 40 CFR Section 75.10 |
| Excess emissions and monitoring system performance reports shall include the information required in 40 CFR Section 60.7(c) and (d). MPCA supplied forms DRF-1 and DRF-2 may be used to meet this requirement. | Minn. R. 7007.0800, subp. 2 |

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

Subject Item: EU 003 Coal Crusher**Associated Items:** CE 003 6% or Greater Moisture Content
SV 002

| What to do | Why to do it |
|---|--------------------------------|
| Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot if not required 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) |

TABLE B: SUBMITTALS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr
Permit Number: 13700013 - 003

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

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

| What to send | When to send | Portion of Facility Affected |
|--|--|-------------------------------------|
| Application for Permit Reissuance | due 180 days before expiration of Existing Permit | Total Facility |
| Computer Dispersion Modeling Protocol | due 1096 days after 05/12/1997 . Dispersion modeling is required for PM10, NOx and SO2. The protocol will describe the proposed modeling methodology and input data in accordance with all requirements of 40 CFR pt. 51, App. W. The protocol may be based on proposed operating conditions under the next permit term if necessary. | Total Facility |
| Computer Dispersion Modeling Results | due 1462 days after 05/12/1997 | Total Facility |
| Fugitive Control Plan | due 60 days after 05/12/1997 . The plan shall identify all fugitive emission sources, primary and contingent control measures, and the records to be kept to demonstrate that the plan is implemented. | Total Facility |
| Relative Accuracy Test Audit (RATA) Notification | due 30 days before CEMS Relative Accuracy Test Audit (RATA) . | SV001 |
| Report | due 360 days after 05/12/1997 specifying parameters that will be monitored as indicators of compliance for EU 001 opacity emissions. The Report shall indicate the frequency of parameter monitoring and recording, and shall be prepared using the results of the initial performance tests for opacity and particulate matter emissions on EU 001 required by this permit. | EU001 |
| Report | due 360 days after 05/12/1997 specifying parameters that will be monitored as indicators of compliance for EU 002 opacity emissions. The Report shall indicate the frequency of parameter monitoring and recording, and shall be prepared using the results of the initial performance tests for opacity and particulate matter emissions on EU 002 required by this permit. | EU002 |

TABLE B: RECURRENT SUBMITTALS

06/04/02

Facility Name: Minnesota Power Inc - Laskin Energy Ctr

Permit Number: 13700013 - 003

| What to send | When to send | Portion of Facility Affected |
|---|--|------------------------------|
| Excess Emissions/Downtime Reports (EER's) | due 30 days after end of each calendar quarter starting 05/12/1997 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions. | SV001 |
| Linearity Test Results Summary | due 30 days after end of each calendar quarter following Linearity and Leak Check Test (Acid Rain Program) if performed. | SV001 |
| Relative Accuracy Test Audit (RATA) Results Summary | due 30 days after end of each calendar quarter following CEMS Relative Accuracy Test Audit (RATA) . | SV001 |
| COMS Calibration Error Audit Results Summary | due 30 days after end of each calendar half-year following COMS Calibration Error Audit . | SV001 |
| Semiannual Deviations Report | due 30 days after end of each calendar half-year starting 05/12/1997 Semiannual | Total Facility |
| Compliance Certification Report (Acid Rain Program) | due 60 days after end of each calendar year starting 01/01/00 an annual compliance certification report for the unit in accordance with 40 CFR ' 72.90(a). The report shall include all information required by 40 CFR ' 72.90(b) and (c). | EU001, EU002 |
| Annual Compliance Certification | due 30 days after end of each calendar year starting 05/12/1997 Annual | Total Facility |
| Emissions Inventory Report | due 91 days after end of each calendar year starting 05/12/1997 (April 1). To be submitted on a form approved by the Commissioner | Total Facility |
| Performance Test Notification (written) | due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test) for particulate matter | EU001 |
| Performance Test Notification (written) | due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test) for particulate matter | EU002 |
| Performance Test Plan | due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test) for particulate matter | EU001 |
| Performance Test Plan | due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test) for particulate matter | EU002 |
| Performance Test Report - Microfiche Copy | due 105 days after end of each 60 months following Initial Performance Test (105 days after each Performance Test) for particulate matter | EU001 |
| Performance Test Report - Microfiche Copy | due 105 days after end of each 60 months following Initial Performance Test (105 days after each Performance Test) for particulate matter | EU002 |
| Performance Test Report | due 45 days after end of each 60 months following Initial Performance Test (45 days after each Performance Test) for particulate matter | EU001 |
| Performance Test Report | due 45 days after end of each 60 months following Initial Performance Test (45 days after each Performance Test) for particulate matter | EU002 |

APPENDIX MATERIAL

Facility Name: Minnesota Power & Light - Laskin Energy

Permit Number: 13700013-002

Phase II NO_x Compliance Plan

For more information, see instructions and refer to 40 CFR 76.9

This submission is:

☒

New

☐

Revised

| | | | |
|--|------------------------------|-----------------|-----------------------|
| Step 1 Indicate plant name, State, and ORIS code from NADB, if applicable | Syl Laskin Plant Name | MN State | 1891 ORIS Code |
|--|------------------------------|-----------------|-----------------------|

Step 2 Identify each affected Group 1 and Group 2 boiler using the boiler ID# from NADB, if applicable. Indicate boiler type: “CB” for cell burner, “CY” for cyclone, “DBW” for dry bottom wall-fired, “T” for tangetially fired, “V” for vertically fired, and “WB” for wet bottom. Indicate the compliance option selected for each unit

| | | | | | |
|-------|-------|------|------|------|------|
| | | | | | |
| ID# 1 | ID# 2 | ID# | ID# | ID# | ID# |
| T | T | | | | |
| Type | Type | Type | Type | Type | Type |

| | | | | | |
|--|--|--|--|--|--|
| (a) Standard annual average emission limitation of 0.50 lb/mmBtu (for <u>Phase I</u> dry bottom wall-fired boilers) | | | | | |
| (b) Standard annual average emission limitation of 0.45 lb/mmBtu (for <u>Phase I</u> tangentially fired boilers) | | | | | |
| (c) EPA-approved early election plan under 40 CFR 76.8 through 12/31/07 (also indicate above emission limit specified in plan) | | | | | |

| | | | | | | |
|---|---|---|--|--|--|--|
| (d) Standard annual average emission limitation of 0.46 lb/mmBtu (for <u>Phase II</u> dry bottom wall-fired boilers) | | | | | | |
| (e) Standard annual average emission limitation of 0.40 lb/mmBtu (for <u>Phase II</u> tangentially fired boilers) | | | | | | |
| (f) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers) | | | | | | |
| (g) Standard annual average emission limitation of 0.86 lb/mmBtu (for cyclone boilers) | | | | | | |
| (h) Standard annual average emission limitation of 0.80 lb/mmBtu (for vertically fired boilers) | | | | | | |
| (i) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers) | | | | | | |
| (j) NOx Averaging Plan (include NOx Averaging form) | X | X | | | | |
| (k) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(A) (check the standard emission limitation box above for most stringent limitation applicable to any unit utilizing stack) | | | | | | |
| (l) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(B) with NOx Averaging (check the NOx Averaging Plan box and include NOx Averaging form) | X | X | | | | |
| (m) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17 (a)(2)(i)(C), (a)(2)(iii)(B), or (b)(2) | | | | | | |

| | | | | | | |
|--|--|--|--|--|--|--|
| (n) AEL (include Phase II AEL Demonstration Period, Final AEL Petition, or AEL Renewal form as appropriate) | | | | | | |
| (o) Petition for AEL demonstration period or final AEL under review by U.S. EPA or demonstration period ongoing | | | | | | |
| (p) Repowering extension plan approved or under review | | | | | | |

Standard Requirements

General. This source is subject to the standard requirements in 40 CFR 72.9 (consistent with 40 CFR 76.8(e)(1)(i)). These requirements are listed in this source's Acid Rain Permit.

Special Provisions for Early Election Units

Nitrogen Oxides. A unit that is governed by an approved early election plan shall be subject to an emissions limitation for NO_x as provided under 40 CFR 76.8(a)(2) except as provided under 40 CFR 76.8(e)(3)(iii).

Liability. The owners and operators of a unit governed by an approved early election plan shall be liable for any violation of the plan or 40 CFR 76.8 at that unit. The owners and operators shall be liable, beginning January 1, 2000, for fulfilling the obligations specified in 40 CFR Part 77.

Termination. An approved early election plan shall be in effect only until the earlier of January 1, 2008 or January 1 of the calendar year for which a termination of the plan takes effect. If the designated representative of the unit under an approved early election plan fails to demonstrate compliance with the applicable emissions limitation under 40 CFR 76.5 for any year during the period beginning January 1 of the first year the early election takes effect and ending December 31, 2007, the permitting authority will terminate the plan. The termination will take effect beginning January 1 of the year after the year for which there is a failure to demonstrate compliance, and the designated representative may not submit a new early election plan. The designated representative of the unit under an approved early election plan may terminate the plan any year prior to 2008 but may not submit a new early election plan. In order to terminate the plan, the designated representative must submit a notice under 40 CFR 72.40(d) by January 1 of the year for which the termination is to take effect. If an early election plan is terminated any year prior to 2000, the unit shall meet, beginning January 1, 2000, the applicable emissions limitation for NO_x for Phase II units with Group 1 boilers under 40 CFR 76.7. If an early election plan is terminated on or after 2000, the unit shall meet, beginning on the effective date of the termination, the applicable emissions limitation for NO_x for Phase II units with Group 1 boilers under 40 CFR 76.7.

Phase II NO_x Averaging Plan

For more information, see instructions and refer to 40 CFR 76.11

This submission is: New ☐ ☒ Revised

Step 1

Identify the units participating in this averaging plan by plant name, State, and boiler ID# from NADB. In column (a), fill in each unit's applicable emission limitation from 40 CFR 76.5, 76.6, or 76.7. In column (b), assign an alternative contemporaneous annual emissions limitation in lb/mmBtu to each unit. In column (c), assign an annual heat input limitation in mmBtu to each unit. Continue to page 3 if necessary.

| Plant Name | State | ID# | (a) Emission Limitation | (b) Alt. Contemp. Emission Limitation | (c) Annual Heat Input Limit |
|--------------|-------|-----|-------------------------------|---|---|
| Clay Boswell | MN | 1 | 0.46 | 0.50 | 4,500,000 |
| Clay Boswell | MN | 2 | 0.46 | 0.50 | 4,500,000 |
| Clay Boswell | MN | 4 | 0.40 | 0.35 | 25,000,000 |
| Svl Laskin | MN | 1 | 0.40 | 0.50 | 3,500,000 |
| Svl Laskin | MN | 2 | 0.40 | 0.50 | 3,500,000 |

Step 2

Use the formula to enter the Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan and the Btu-weighted annual average emission rate for the same units if they are operated in compliance with 40 CFR 76.5, 76.6, or 76.7. The former must be less than or equal to the latter.

Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan

Btu-weighted annual average emission rate for same units operated in compliance with 40 CFR 76.5, 76.6, or 76.7

| |
|------|
| 0.41 |
|------|

| |
|------|
| 0.41 |
|------|

$$\frac{\sum_{i=1}^n (R_{Li} \times HI_i)}{\sum_{i=1}^n HI_i} \leq \frac{\sum_{i=1}^n [R_{li} \times HI_i]}{\sum_{i=1}^n HI_i}$$

Where,

R_{Li} = Alternative contemporaneous annual emission limitation unit i, in lb/mmBtu, as specified in column (b) of Step 1:

R_{li} = Applicable emission limitation for unit i, in lb/mmBtu, as specified in column (a) of Step 1:

HI_i = Annual heat input for unit i, in mmBtu, as specified in column (c) of Step 1:

n = Number of units in the averaging plan

☒ This plan is effective for calendar year 2000 through calendar year 2002 unless notification to terminate the plan is given.

☐ Treat this plan as ☐ identical plans, each effective for one calendar year for the following ☐ calendar years , , , , and unless notification to terminate one or more of these plans is given.

Special Provisions

Emission Limitations

Each affected unit in an approved averaging plan is in compliance with the Acid Rain emission limitation for NO_x under the plan only if the following requirements are met:

- (i) For each unit, the unit's actual annual average emission rate for the calendar year, in lb/mmBtu, is less than or equal to its alternative contemporaneous annual emission limitation in the averaging plan, and
 - (a) For each unit with an alternative contemporaneous emission limitation less stringent than the applicable emission limitation in 40 CFR 76.5, 76.6, or 76.7, the actual annual heat input for the calendar year does not exceed the annual heat input limit in the averaging plan,
 - (b) For each unit with an alternative contemporaneous emission limitation more stringent than the applicable emission limitation in 40 CFR 76.5, 76.6, or 76.7, the actual annual heat input for the calendar year is not less than the annual heat input limit in the averaging plan, or
- (ii) If one or more of the units does not meet the requirements of (i), the designated representative shall demonstrate, in accordance with 40 CFR 76.11(d)(1)(ii)(A) and (B), that the actual Btu-weighted annual average emission rate for the units in the plan is less than or equal to the Btu-weighted annual average rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations in 40 CFR 76.5, 76.6, or 76.7.
- (iii) If there is a successful group showing of compliance under 40 CFR 76.11(d)(1)(ii)(A) and (B) for a calendar year, then all units in the averaging plan shall be deemed to be in compliance for that year with their alternative contemporaneous emission limitations and annual heat input limits under (i).

Liability

The owners and operators of a unit governed by an approved averaging plan shall be liable for any violation of the plan or this section at that unit or any other unit in the plan, including liability for fulfilling the obligations specified in part 77 of this chapter and sections 113 and 411 of the Act.

Termination

The designated representative may submit a notification to terminate an approved averaging plan, in accordance with 40 CFR 72.40(d), no later than October 1 of the calendar year for which the plan is to be terminated.

Phase II Permit Application

For more information, see instructions and refer to 40 CFR 72.30 and 72.31

This submission is ☒ New ☐ Revised

| | | |
|------------|-------|-----------|
| Syl Laskin | MN | 1891 |
| Plant Name | State | ORIS Code |

Compliance
Plan

| a Boiler ID# | b Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1) | c Repowering Plan | d New Units Commence Operation Date | e New Units Monitor Certification Deadline |
|-----------------|---|-------------------------|--|--|
| 1 | Yes | no | | |
| 2 | Yes | no | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |

Standard Requirements

Permit Requirements.

- (1) The designated representative of each affected source and each affected unit at the source shall:
 - (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
 - (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
- (2) The owners and operators of each affected source and each affected unit at the source shall:
 - (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
 - (ii) Have an Acid Rain Permit.

Monitoring Requirements.

- (1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR parts 74, 75, and 76.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR parts 74 and 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

- (1) The owners and operators of each source and each affected unit at the source shall:
 - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
 - (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
 - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(i) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

- (1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
- (2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:
 - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
 - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
 - (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
 - (ii) All emissions monitoring information, in accordance with 40 CFR part 75;

- (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
 - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
- (6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
- (7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

- (1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
- (2) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
- (3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
- (4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
- (5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

TECHNICAL SUPPORT DOCUMENT
For
DRAFT AIR EMISSION PERMIT NO. 13700013-003

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 and Phone Number | Facility Address (SIC Code: 4911) |
|---|--|
| Minnesota Power and Light 30 West Superior Street Duluth, Minnesota 55802 | County Road 110 and 633 Aurora, Minnesota St. Louis County |

1.2. Description of the Facility

Emission Units at the Laskin Energy Center include two coal fired power boilers, and fuel and ash handling equipment. Emissions are controlled by wet scrubbers on Boilers 1 and 2, and by rotoclones and enclosures for some of the materials handling equipment. The facility is subject to the requirements of Minn. R. for Indirect Heating Equipment and Phase II of the Title IV Acid Rain regulations.

1.3 Description of the Activities Allowed By This Permit Action

This permit amendment allows the Permittee to replace the existing distillate oil-fired ignitors in Boilers 1 and 2, with new ignitors that can burn distillate oil and natural gas. To accommodate this, natural gas has been added to the list of permitted fuels.

The new ignitors will be the same size as the existing ignitors. There are 12 ignitors per boiler with a heat input rating of 4 mmBtu/hr per ignitor. The ignitors are primarily used for unit startup, but are also used when western subbituminous coal is burned to top off heat input when necessary. The Permittee anticipates replacing the ignitors in Boiler 2 in 2002, and in Boiler 1 in 2003 or 2004.

1.4. Facility Emissions:

| | PM tpy | PM ₁₀ tpy | SO ₂ tpy | NO _x tpy | CO tpy | VOC tpy | Pb tpy |
|--|-----------|-------------------------|------------------------|------------------------|-----------|------------|-----------|
| Emission Changes Due To This Modification | 0 | 0 | 0 | 0 | 0 | 1.58 | 0 |

Table 2. Permit Action Classification

| Classification (put x in appropriate box) | Major/Affected Source | *Synthetic Minor | *Minor |
|---|-----------------------|------------------|--------|
| PSD (list pollutant) | | | All |
| Part 70 Permit Program (list pollutant) | | | All |

* 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 Overview of Units Affected by the Modification

This modification does not prompt any changes to the applicable regulations for this facility. See the technical support documents for PER 001 and PER 002 for regulatory overview for this facility.

3. Technical Information

Emission Changes Due to Modification: Changes in worst case criteria pollutant emissions are zero except VOC. This is because distillate oil is a permitted fuel before and after the modification, and distillate oil is worst case for all criteria pollutants, except VOC. Natural Gas is worst case for VOC emissions only.

Note that at 660 mmBtu/hr, bituminous coal consumption is 25.385 tons per hour @ 26 mmBtu/ton. At 25.385 tph, VOC emissions from bituminous coal are:

$0.06 \text{ lb/ton} * 25.386 \text{ tph} = 1.523 \text{ lb/hr}$
and,

at 525 mmBtu/hr, subbituminous coal consumption is 26.25 tph @ 20 mmBtu/ton. At 26.25 tph, VOC emissions from subbituminous coal are:

$0.06 \text{ lb/ton} * 26.25 \text{ tph} = 1.575 \text{ lb/hr}$

Therefore, subbituminous coal is worst case for VOC emissions compared to bituminous coal, The change in VOC emissions from the addition of natural gas as ignitor fuel results is 0.79 tpy additional VOC per boiler when a boiler is operating at 525 mmBtu/hr on subbituminous coal, and 48 mmBtu/hr on natural gas, compared to the same boiler operating at 525 mmBtu/hr on subbituminous coal, and 48 mmBtu/hr on distillate oil.

Note that no changes were made to the Delta Facility Description emissions data for VOC, as the AP-42 emission factors have changed since data input (1997 input and factors revised in 1998), and coincidentally, the calculated VOC emissions after the modification are the same as those prior to the modification before the 1998 emission factor revision.

Updates Made To The Permit Not In the Scope Of This Permitting Action: Requirements for EU 001 and EU 002 performance testing due 180 days after issuance of PER 001 (May 1997) have been removed as these requirements have been completed and are no longer applicable.

No comments were received from EPA during their 45 day review period that ended May 23, 2002.

4. Conclusion

Based on the information provided by Minnesota Power, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 13700013-003 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: Marshall Cole, Robert Beresford
Attachment: Emission Calculations



MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **EC-02**
EXTERNAL COMBUSTION (BOILER) CALCULATION FORM
8/29/01

- Fill out this form for each boiler, or attach sheets with equivalent information.
- Instructions begin on Page 6.
- If the boiler emits Hazardous Air Pollutants (HAPs), fill out and attach Form EC-13C.

1) AQ Facility ID No.: _____

2) Facility Name: Mn Power Laskin

3) Emission Unit Identification Number: EU 001/EU 002 Igniters only, in tangentially fired coal boilers

4) Stack/Vent Designation Number: SV 001

5) Maximum Rated Boiler Capacity: 48 mmBtu/hr/boiler million BTU/hr

6) Control Equipment: Scrubber for each boiler

7) Fuel Parameters

| 7a) Fuel Type | 7b) % Sulfur | 7c) % Ash | 7d) Heat Value | Units | 7e) Fuel Consumption Rate | Units |
|------------------|-----------------|--------------|-------------------|---------|------------------------------|---------|
| distillate oil | 0.6 | | 137,000 | Btu/gal | 350.36 | gal/hr |
| NG | | | 1050 | Btu/cf | 0.0457143 | mmcf/hr |

All factors based on AP-42

8) Calculations Summary - Primary Fuel: Natural Gas; data is for ignitors in each boiler

| 8a Pollutant | 8b Emission Factor <small>(lbs/ton, lbs/gal, lbs/cf, etc.)</small> | 8c Actual Annual Fuel Use <small>(tons, gallons, cf, etc.)</small> | 8d Emission Rate <small>(lbs/hr)</small> | 8e Maximum Uncontrolled Emissions <small>(tons/yr)</small> | 8f Actual Uncontrolled Emissions <small>(tons/yr)</small> | 8g Pollution Control Efficiency <small>(%)</small> | 8h Maximum Controlled Emissions <small>(tons/yr)</small> | 8i Limited Controlled Emissions <small>(tons/yr)</small> | 8j Actual Controlled Emissions <small>(tons/yr)</small> |
|------------------------|--|---|--|---|--|---|---|---|--|
| PM | 7.6 | | 0.35 | 1.52 | | | 1.52 | | |
| PM ₁₀ | 5.7 | | 0.26 | 1.14 | | | 1.14 | | |
| SO _x | 0.6 | | 0.03 | 0.12 | | 50 | 0.06 | | |
| NO _x | 170 | | 7.77 | 34.04 | | | 34.04 | | |
| VOC | 5.5 | | 0.25 | 1.10 | | | 1.10 | | |
| CO | 24 | | 1.10 | 4.81 | | | 4.81 | | |
| Lead | 0.0005 | | 0.000023 | 0.0001 | | | 0.0001 | | |

9) Calculations Summary: Distillate Oil; data is for ignitors in each boiler

| 9a Pollutant | 9b Emission Factor lbs/mgal | 9c Actual Annual Fuel Use (tons, gallons, cf, etc.) | 9d Emission Rate (lbs/hr) | 9e Maximum Uncontrolled Emissions (tons/yr) | 9f Actual Uncontrolled Emissions (tons/yr) | 9g Pollution Control Efficiency (%) | 9h Maximum Controlled Emissions (tons/yr) | 9i Limited Controlled Emissions (tons/yr) | 9j Actual Controlled Emissions (tons/yr) |
|------------------------|---|---|---|--|---|--|--|--|---|
| PM | 2.0 | | 0.70 | 3.07 | | | 3.07 | | |
| PM ₁₀ | 1.3 | | 0.46 | 2.01 | | | 2.01 | | |
| SO _x | 142 (0.6) | | 29.85 | 130.74 | | 50 | 65.37 | | |
| NO _x | 24.0 | | 8.41 | 36.84 | | | 36.84 | | |
| VOC | 0.20 | | 0.07 | 0.31 | | | 0.31 | | |
| CO | 5.00 | | 1.75 | 7.67 | | | 7.67 | | |
| Lead | 0.00126 | | 0.0004 | 0.002 | | | 0.002 | | |

11) Worse-Case Potential-to-Emit Summary Per Boiler:

| Pollutant tpy | Natural Gas (New Fuel) | Distillate Oil (New and Existing Fuel) |
|--------------------------|---------------------------------------|---|
| PM | 1.52 | 3.07 |
| PM ₁₀ | 1.14 | 2.01 |
| SO _x | 0.06 | 65.37 |
| NO _x | 34.04 | 36.84 |
| VOC | 1.10 | 0.31 |
| CO | 4.81 | 7.67 |
| Lead | 0.0001 | 0.002 |

Natural Gas is worst case only for VOC
