

AIR EMISSION PERMIT NO. 03100001- 001
IS ISSUED TO

LTV Steel Mining Company

LTV STEEL MINING - SCHROEDER

P.O. Box 64

Schroeder, Cook County, Minnesota 55613

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

Permit Type	Application Date
Total Facility Operating Permit	June 14, 1995

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit and with all general conditions listed in Minn. R. 7007.0800, subp. 16, [and all standard permit requirements listed in 40 CFR § 70.6\(a\)](#), which are incorporated by reference. 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 ; Part 70

Issue Date: May 19, 1997

Expiration: May 19, 2002

All Title I Conditions do not expire.

Michael J. Sandusky
Acting Division Manager
Air Quality Division

for Peder A. Larson
Commissioner
Minnesota Pollution Control Agency

BAB:lao

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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	(612)296-6300
Outside Metro Area	1-800-657-3864
TTY	(612)282-5332

The rule 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. Any requirements which have been determined not to apply are listed in Table A of this permit.

The permit shield, however does not apply to: Minn. R. ch. 7030 (Noise Pollution Control).

FACILITY DESCRIPTION:

LTV Steel Mining Company (LTV) operates a coal-fired steam powered electrical energy generating station and loading terminal at its Taconite Harbor facility near Schroeder, Cook County, Minnesota. The three tangentially fired coal boilers at the facility produce steam which is used to generate electricity. The vast majority of the electricity produced is used to power LTV's taconite ore processing facility in Hoyt Lakes, Minnesota. A small portion of the electricity produced is sold. The amount of electricity sold is small enough as to exempt the facility from the Title IV acid rain permitting program.

The coal burned at the facility is delivered to the facility by boat and unloaded and conveyed to a coal surge pile via a series of conveyors. The conveyor system can also be used to convey coarse aggregate materials, such as fluxstone or coal, into railcars. The coal is transferred directly from the coal surge pile by scraper or dozer to the boiler house building, pulverized, and fed into the boilers. Coal is also transferred to a coal stockpile for long term storage for use during the nonshipping season. The ash generated by the boilers is pneumatically conveyed to the ash collection silo. The ash is mixed with water and taken to an approved ash disposal site. LTV is currently investigating alternatives that will utilize this ash; possibly consisting of a dry ash handling system. LTV will investigate the need for air quality permitting for this project.

The three boilers are equipped with distillate oil burners that are used when a boiler is started. The burners fire only enough oil to heat the boiler sufficiently to allow coal firing to begin. The use of distillate oil in the boilers is for startup purposes only, not for backup fuel use.

Taconite pellets, pellet chips, and iron ore shipped by railcar from the Hoyt Lakes facility are unloaded into a number of storage bins to await loading onto boats. During the shipping season, these products are then conveyed from the storage bins into the boats.

The facility maintains and operates a number of storage tanks. Four of the storage tanks, two containing distillate fuel oil and two containing residual fuel oil, are leased to a marine refueling company. All of the storage tanks at the facility, including the four leased tanks, are classified as insignificant activities.

The facility also operates a heating boiler, a cold start generator, and an emergency fire pump. The heating boiler is used to provide heat to the facility buildings during the time periods when all three main boilers are shut down. The cold start generator is used to restart the main boilers after time periods when all three main boilers are shut down and energy is not available from a local utility. The emergency fire pump is operated for routine testing and during emergency situations.

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

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

Subject Item:**Total Facility**

What to do	Why to do it
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
Fugitive Control Plan: Submit a fugitive emission control plan within 60 days of the date of permit issuance for review and approval by the Commissioner. The plan shall identify all fugitive emission sources, primary and contingent control measures, and records kept, if any.	Minn. R. 7007.0800, subp. 2
Comply with Fugitive Emissions Control Plan: Follow the actions and recordkeeping 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. 7011.0105 or the control plan, then you may be required to amend the control plan. The Commissioner may also require continued operation of particulate matter ambient air monitors, or re-installation and operation of particulate matter ambient air monitors.	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. The permittee shall follow the plan to achieve compliance with the applicable emission limits in this permit.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
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
Oral Notification of Deviations Endangering Human Health or the Environment: Within 24 hours of discovery, orally notify the Commissioner of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7007.0800, subp. 6(A)
Discovery of Deviations Endangering Human Health or the Environment Report (written): due two working days after discovery of deviation, submit a written description of any deviation endangering human health or the environment to the Commissioner. Include the following information in this written description: cause of the deviation; exact dates of the period of the deviation; if the deviation has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7007.0800, subp. 6(A)
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
Shutdowns: Notify the Commissioner at least 24 hours in advance of shutdown of any process or control equipment if the shutdown would cause an increase in the emission of air contaminants. At the time of notification, notify the Commissioner of the cause of the shutdown and the estimated duration. Notify the Commissioner again when the shutdown is over.	Minn. R. 7019.1000, subp. 1
Breakdowns: Notify the Commissioner immediately of a breakdown of more than one hour duration of any process or control equipment if the breakdown causes an increase in the emission of air contaminants. At the time of notification or as soon thereafter as possible, the permittee shall also notify the Commissioner of the cause of the breakdown and the estimated duration. Notify the Commissioner again when the breakdown is over.	Minn. R. 7019.1000, subp. 2
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

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

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.	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)
No emissions of acidic or alkaline substances in such amount that the downwind fall out rate at any place where an adverse effect could occur exceeds the upwind fall out rate by five or more spots per hour, measured in accordance with Minn. R. 7011.0405.	Minn. R. 7011.0400
Noise: The Permittee shall comply with noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during operation of any emission units. This is a state requirement only and is not federally enforceable.	Minn. R. 7030.0010-7030.0080
Operating and/or production limits will be placed on emission units based on operating conditions during performance testing. Limits set as a result of a performance test (conducted before or after permit issuance) apply until new operating/production limits are set following formal review of a performance test as specified by Minn. R. 7017.2025.	Minn. R. 7017.2025
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
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)
Ambient Air Monitoring Network: the Permittee may apply for an amendment to this permit to discontinue operation of the remaining three total suspended particulate ambient air monitors, after one year from the date of permit issuance, if the ambient air monitoring reports show no violations of the TSP standard (150 micrograms per cubic meter maximum 24-hour concentration not to be exceeded more than once per year). Note that the requirement for ambient TSP monitoring is a state only requirement and is not federally enforceable.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

Subject Item: GP 001 Three 745 MMBtu/hr coal-fired boilers**Associated Items:** EU 001 Boiler No. 1

EU 002 Boiler No. 2

EU 003 Boiler No. 3

What to do	Why to do it
Total GP001 Sulfur Dioxide: less than or equal to 1743 lbs/hour using 3 Hour Average	Title I Condition to ensure compliance with the sulfur dioxide ambient air standard in Minn. R. 7009.0080
Mercury content of coal: Less than or equal to 0.20 parts per million on an annual average basis. The agency will refrain from enforcement action for exceedance of this mercury limit if the Permittee is able to demonstrate, to the satisfaction of the agency, that the Permittee has used best efforts to comply with the mercury limit.	Minn. R. 7007.0800, subp. 2
Coal sampling for mercury content: Collect a daily coal sample, and analyze a composite sample of the coal at least once a week according to ASTM Method D-3684. The Permittee shall maintain a record of all analyses for at least 5 years from the date of analysis. Results of the analyses shall be reported to the Supervisor, Compliance Determination Unit semiannually with the Semiannual Deviations Report.	Minn R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

Subject Item: SV 001**Associated Items:** EU 001 Boiler No. 1

MR 001

MR 002

MR 003

MR 004

MR 005

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 lbs/million Btu heat input (excluding condensable organic particulate matter).	Minn. R. 7007.0800, subp. 2; meets requirements of Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60% opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40% opacity shall be permissible for four additional minutes in any 60 minute period based on a one(1)-minute averaging period.	Minn. R. 7011.0510, subp. 2
Sulfur Dioxide: less than or equal to 0.78 lbs/million Btu heat input using 3-hour Average	Minn. R. 7009.0020 to not cause or contribute to a violation of the SO2 ambient air standard in Minn. R. 7009.0080; meets the requirements of Minn. R. 7011.0510, subp. 1
Fuels allowed: bituminous coal, sub-bituminous coal, No. 2 fuel oil, used oil, and used oil sorbents.	Minn. R. 7007.0800, subp. 2
Initial Performance Test: due before 10/31/00 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 60 months following Initial Performance Test to measure particulate matter emissions. 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 after each Performance Test)	Minn. R. 7017.2030, subp. 4
Boiler Alternative Operating Conditions for Performance Testing: 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. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 2(A) and 3(B)
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: 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: (1) If the results of the performance test are greater than 80% of any applicable emission limit for which emissions are measured, then boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 80% of all applicable emission limits for which emissions are measured, boiler operation will be limited to 110% of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 3(B)
STET (Short Term Emergency and Testing) Operating hours limit: 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. Documentation of all STET operation shall be maintained. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results measure emissions 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. If performance test results measure emissions at greater than 80% 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. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
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.	Minn. R. 7017.2020, subp. 4
Emissions Monitoring: The owner or operator shall measure the opacity of the emission unit using a COMS.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
COMS Monitoring Data: Owners or operators of all COMS shall reduce all data to one-minute averages. 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 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 the twice specification of PS-1 of 40 CFR pt. 60, Appendix B.	Minn. R. 7017.1000
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
Emissions Monitoring: The owner or operator shall monitor SO2 emissions using a CEMS.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
SO2 CEM Failure: The permittee shall conduct daily coal sampling if the SO2 CEM on SV 001 has been down for at least 48 hours and no other boiler is operating. Coal sampling shall be at the coal feeder and shall meet the requirements of ASTM 2234. If another boiler is operating and the SO2 emissions from the other boiler are measured with a functioning SO2 CEM, and the other boiler is burning the same coal, the data from the operating SO2 CEM will be used as a measure of SV 001 SO2 emissions.	Minn. R. 7007.0800, subp. 2
CEMS Continuous Operation: Except for system breakdowns, repairs, calibrations checks and zero and span adjustments, all CEMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	Minn. R. 7007.0800, subp. 2; Minn. R. 7017.1000, subp. 5
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year following CEM Certification Test . Conduct CGA at least 3 months apart and not greater than 8 months apart. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7007.0800, subp. 2
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test . If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR pt. 60 Appendix B and Appendix F.	Minn. R. 7007.0800, subp. 2
Recordkeeping: The owner or operator must retain records of all CEMS/COMS 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

Subject Item: SV 002**Associated Items:** EU 002 Boiler No. 2

MR 006

MR 007

MR 008

MR 009

MR 010

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 lbs/million Btu heat input (excluding condensable organic particulate matter).	Minn. R. 7007.0800, subp. 2; meets requirements of Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60% opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40% opacity shall be permissible for four additional minutes in any 60 minute period based on a one(1)-minute averaging period.	Minn. R. 7011.0510, subp. 2
Sulfur Dioxide: less than or equal to 0.78 lbs/million Btu heat input using 3-hour Average	Minn. R. 7009.0020 to not cause or contribute to a violation of the SO ₂ ambient air standard in Minn. R. 7009.0080; meets requirements of Minn. R. 7011.0510, subp. 1
Fuels allowed: bituminous coal, sub-bituminous coal, No. 2 fuel oil, used oil, and used oil sorbents.	Minn. R. 7007.0800, subp. 2
Initial Performance Test: due before 10/31/00 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4
Boiler Alternative Operating Conditions for Performance Testing: 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. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 2(A) and 3(B)
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: 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: (1) If the results of the performance test are greater than 80% of any applicable emission limit for which emissions are measured, then boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 80% of all applicable emission limits for which emissions are measured, boiler operation will be limited to 110% of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 3(B)
STET (Short Term Emergency and Testing) Operating hours limit: 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. Documentation of all STET operation shall be maintained. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results measure emissions 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. If performance test results measure emissions at greater than 80% 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. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
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.	Minn. R. 7017.2020, subp. 4
Performance Test: due before end of each 60 months following Initial Performance Test to measure particulate matter emissions. 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 after each Performance Test)	Minn. R. 7017.2030, subp. 4
Emissions Monitoring: The owner or operator shall measure the opacity of the emission unit(s) using a COMS.	Minn. R. 7007.0800, subp. 2
COMS Monitoring Data: Owners or operators of all COMS shall reduce all data to one-minute averages. 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 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 pt. 60, Appendix B.	Minn. R. 7017.1000
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
Emissions Monitoring: The owner or operator shall monitor SO ₂ emissions using a CEMS.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
SO ₂ CEM Failure: The permittee shall conduct daily coal sampling if the SO ₂ CEM on SV 002 has been down for at least 48 hours and no other boiler is operating. Coal sampling shall be at the coal feeder and shall meet the requirements of ASTM 2234. If another boiler is operating and the SO ₂ emissions from the other boiler are measured with a functioning SO ₂ CEM, and the other boiler is burning the same coal, the data from the operating SO ₂ CEM will be used as a measure of SV 002 SO ₂ emissions.	Minn. R. 7007.0800, subp. 2
CEMS Continuous Operation: Except for system breakdowns, repairs, calibrations checks and zero and span adjustments, all CEMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specifications of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	Minn. R. 7007.0800, subp. 2; Minn. R. 7017.1000, subp. 5
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year following CEM Certification Test. Conduct CGA at least 3 months apart and not greater than 8 months apart. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7007.0800, subp. 2
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test. If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR pt. 60 Appendix B and Appendix F.	Minn. R. 7007.0800, subp. 2
Recordkeeping: The owner or operator must retain records of all CEMS/COMS 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

Subject Item: SV 003**Associated Items:** EU 003 Boiler No. 3

MR 011

MR 012

MR 013

MR 014

MR 015

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 lbs/million Btu heat input (excluding condensable organic particulate matter).	Minn. R. 7007.0800, subp. 2; meets requirements of Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60% opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40% opacity shall be permissible for four additional minutes in any 60 minute period based on a one(1)-minute averaging period.	Minn. R. 7011.0510, subp. 2;
Sulfur Dioxide: less than or equal to 0.78 lbs/million Btu heat input using 3-hour Average	Minn. R. 7009.0020 to not cause or contribute to a violation of the ambient SO2 standards in Minn. R. 7009.0080; meets the requirements of Minn. R. 7011.0510, subp. 1
Fuels allowed: bituminous coal, sub-bituminous coal, No. 2 fuel oil, used oil, and used oil sorbents.	Minn. R. 7007.0800, subp. 2
Initial Performance Test: due before 09/30/98 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4
Boiler Alternative Operating Conditions for Performance Testing: 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. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 2(A) and 3(B)
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: 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: (1) If the results of the performance test are greater than 80% of any applicable emission limit for which emissions are measured, then boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 80% of all applicable emission limits for which emissions are measured, boiler operation will be limited to 110% of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 3(B)
STET (Short Term Emergency and Testing) Operating hours limit: 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. Documentation of all STET operation shall be maintained. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results measure emissions 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. If performance test results measure emissions at greater than 80% 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. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
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.	Minn. R. 7017.2020, subp. 4
Performance Test: due before end of each 36 months following Initial Performance Test to measure particulate matter emissions. The tests shall be conducted at an interval not to exceed 36 months between test dates.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each 36 months following Initial Startup (7 days before each Performance Test)	Minn. R. 7017.2030, subp. 4
Emissions Monitoring: The owner or operator shall measure the opacity of the emission unit using a COMS.	Minn. R. 7007.0800, subp. 2
COMS Monitoring Data: Owners or operators of all COMS shall reduce all data to one-minute averages. 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 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 specifications of PS-1 of 40 CFR pt. 60, Appendix B.	Minn. R. 7017.1000
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
Emissions Monitoring: The owner or operator shall monitor SO ₂ emissions using a CEMS.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
SO ₂ CEM Failure: The permittee shall conduct daily coal sampling if the SO ₂ CEM on SV 003 has been down for at least 48 hours and no other boiler is operating. Coal sampling shall be at the coal feeder and shall meet the requirements of ASTM 2234. If another boiler is operating and the SO ₂ emissions from the other boiler are measured with a functioning SO ₂ CEM, and the other boiler is burning the same coal, the data from the operating SO ₂ CEM will be used as a measure of SV 003 SO ₂ emissions.	Minn. R. 7007.0800, subp. 2
CEMS Continuous Operation: Except for system breakdowns, repairs, calibrations checks and zero and span adjustments, all CEMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	Minn. R. 7007.0800, subp. 2; Minn. R. 7017.1000, subp. 5
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year following CEM Certification Test. Conduct CGA at least 3 months apart and not greater than 8 months apart. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7007.0800, subp. 2
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test. If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR pt. 60 Appendix B and Appendix F.	Minn. R. 7007.0800, subp. 2
Recordkeeping: The owner or operator must retain records of all CEMS/COMS 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

Subject Item: EU 004 Heating Boiler**Associated Items:** SV 004

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 except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60-minute period and that a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60-minutes period.	Minn. R. 7011.0510, subp. 2
Fuel type limited to distillate fuel oil.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder
Permit Number: 03100001 - 001

Subject Item: EU 005 Cold Start Generator

Associated Items: SV 005

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity for more than 10 consecutive seconds once operating temperatures have been obtained.	Minn. R. 7011.2300, subp. 1
Fuel type limited to distillate fuel oil.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

Subject Item: EU 006 Ash Collection Baghouse**Associated Items:** CE 004 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
SV 006

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 further reduce emissions according to Minn. R. 7011.0710, subp. 1.A.	Minn. R. 7011.0710, subp. 1.A.
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity is allowed for four minutes in any 60-minute period, and a maximum of 40 percent opacity is allowed for four additional minutes in any 60-minute period.	Minn. R. 7011.0710, subp. 1.B.

TABLE B: SUBMITTALS

05/19/97

Facility Name: LTV Steel Mining - Schroeder
Permit Number: 03100001 - 001

Table B lists the submittals you must send to the Commissioner. Table B is divided into two sections, for source-specific submittal requirements and for submittals required of all permittees. Source-specific submittals are further organized as either one-time only or recurrent requirements. You may also be subject to additional reporting requirements contained in the compliance schedule located in Table C of this permit. All submittals must be postmarked or received by the date specified in the table, and certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Submittals which must be provided on standardized forms approved by the Commissioner are noted in Tables B and C.

Send any application for a permit or permit amendment to: Permit Information Coordinator, Permit Section, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4914. Also send the Permit Information Coordinator notices of: accumulated insignificant activities, installation of control equipment, replacement of an emissions unit, and changes that contravene a permit term.

Send all other submittals to: Compliance Tracking Coordinator, Compliance Determination Unit, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Fugitive Control Plan	due 60 days after Permit Issuance . The plan should be an updated version of the fugitive emissions control plan submitted to the agency in 1994.	Total Facility
Performance Test Notification (written)	due 30 days before Initial Performance Test	SV001, SV002, SV003
Performance Test Plan	due 30 days before Initial Performance Test	SV001, SV002, SV003
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test	SV001, SV002, SV003
Performance Test Report	due 45 days after Initial Performance Test	SV001, SV002, SV003
Relative Accuracy Test Audit (RATA) Notification	due 30 days before CEMS Relative Accuracy Test Audit (RATA)	SV001, SV002, SV003

TABLE B: RECURRENT SUBMITTALS

05/19/97

Facility Name: LTV Steel Mining - Schroeder

Permit Number: 03100001 - 001

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 following Permit Issuance (Submit Deviations Reporting Form DRF-1 as amended). The EER's shall indicate all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdowns, and malfunctions.	SV001, SV002, SV003
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar quarter following CEMS Relative Accuracy Test Audit (RATA) .	SV001, SV002, SV003
CEMS Cylinder Gas Audit (CGA) Results Summary	due 30 days after end of each calendar half-year following CEMS Cylinder Gas Audit (CGA)	SV001, SV002, SV003
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year following COMS Calibration Error Audit	SV001, SV002, SV003
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance . The first report covers January 1 - June 30. The second report covers July 1 - December 31.	Total Facility
Compliance Certification	due 30 days after end of each calendar year following Permit Issuance . The report covers all deviations experienced during the previous calendar year.	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). The Report shall be submitted on a form approved by the Commissioner	Total Facility
Performance Test Notification (written)	due 30 days before end of each 36 months following Initial Performance Test (30 days before each Performance Test)	SV003
Performance Test Plan	due 30 days before end of each 36 months following Initial Performance Test (30 days before each Performance Test)	SV003
Performance Test Report - Microfiche Copy	due 105 days after end of each 36 months following Initial Performance Test (105 days after each Performance Test)	SV003
Performance Test Report	due 45 days after end of each 36 months following Initial Performance Test (45 days after each Performance Test)	SV003
Performance Test Notification (written)	due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test)	SV002
Performance Test Notification (written)	due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test).	SV001
Performance Test Plan	due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test)	SV001, SV002
Performance Test Report - Microfiche Copy	due 105 days after end of each 60 months following Initial Performance Test (105 days after each Performance Test)	SV001
Performance Test Report - Microfiche Copy	due 105 days after end of each 60 months following Initial Performance Test (105 days after each Performance Test)	SV002
Performance Test Report	due 45 days after end of each 60 months following Initial Performance Test (45 days after end of each Performance Test)	SV001
Performance Test Report	due 45 days after end of each 60 months following Initial Performance Test (45 days after end of each Performance Test)	SV002

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 03100001-001

This Technical Support Document (TSD) is for all the interested parties of the draft permit and to meet the requirements that have been set forth by the federal regulations and Minnesota Rules (40 CFR, § 70.7(a)(5) and Minn. R. 7007.0850, subp 1.) The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the draft permit.

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1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 5171)
LTV Steel Mining Company	LTV Steel Mining Company - Taconite Harbor Power Plant & Loading Dock
P.O. Box 847	P.O. Box 64
County Road North 666	Taconite Harbor - U.S. Highway 61
Hoyt Lakes, Minnesota 55750	Schroeder, Minnesota 55613

1.2. Description Of The Facility and the Permit Action

LTV Steel Mining Company (LTV) operates a coal-fired steam powered electrical energy generating station and loading terminal at its Taconite Harbor facility near Schroeder, Cook County, Minnesota. The three tangentially fired coal boilers at the facility produce steam which is used to generate electricity. The vast majority of the electricity produced is used to power LTV's taconite ore processing facility in Hoyt Lakes, Minnesota. A small portion of the electricity produced is sold. The amount of electricity sold is small enough as to exempt the facility from the Title IV Acid Rain permitting program.

The coal burned at the facility is delivered to the facility by boat and unloaded and conveyed to a coal surge pile via a series of conveyors. The conveyor system can also be used to convey coarse aggregate materials, such as fluxstone or coal, into railcars. The coal is transferred directly from the coal surge pile by scraper or dozer to the boiler house building, pulverized, and fed into the boilers. Coal is also transferred to a coal stockpile for long term storage for use during the nonshipping season. The ash generated by the boilers is pneumatically conveyed to the ash collection silo. The ash is mixed with water and taken to an approved ash disposal site. LTV is currently investigating alternatives that will utilize this ash; possibly consisting of a dry ash handling system. LTV will investigate the need for air quality permitting for this project.

The three boilers are equipped with distillate oil burners that are used when a boiler is started. The burners fire only enough oil to heat the boiler sufficiently to allow coal firing to begin. The use of distillate oil in the boilers is for startup purposes only, not for backup fuel use.

Taconite pellets, pellet chips, and iron ore shipped by railcar from the Hoyt Lakes facility are unloaded into a number of storage bins to await loading onto boats. During the shipping season, these products are then conveyed from the storage bins into the boats.

The facility maintains and operates a number of storage tanks. Four of the storage tanks, two containing distillate fuel oil and two containing residual fuel oil, are leased to a marine refueling company. All of the storage tanks at the facility, including the four leased tanks, are classified as insignificant activities.

The facility also operates a heating boiler, a cold start generator, and an emergency fire pump. The heating boiler is used to provide heat to the facility buildings during the time periods when all three main boilers are shut down. The cold start generator is used to restart the main boilers after time periods when all three main boilers are shut down and energy is not available from a local utility. The emergency fire pump is operated for routine testing and during emergency situations.

The draft permit does not allow for new construction or an increase in emissions.

1.3. Emissions of the Facility

1.3.1 Criteria Pollutants

Following is a summary of the potential emission rates, in tons per year (tpy), attributable to the facility. Emission calculations are in the appendices.

Table 1. Total Facility Potential to Emit Summary and Attainment Status:

Pollutant	Potential to Emit (Tons/year =TPY)	Attainment or Unclassified? (Yes or No)
Particulate Matter (PM)	2,985	Not Applied
Particulate Matter less than 10 micron (PM ₁₀)	2980	Yes
Sulfur Dioxide (SO ₂)	7,635	Yes
Nitrogen Oxides (NO _x)	8,373	Yes
Volatile Organic Compounds (VOCs)/Ozone	83.7	Yes
Carbon Monoxide (CO)	306	Yes
Lead	3.3	Yes
Hazardous Air Pollutants (add as needed)	>25 total	Not Applied

Table 2. Facility Classification

Classification (put x in appropriate box)	Major	Synthetic Minor	Minor	N/A
Prevention of Significant Deterioration	x			
Non Attainment Area (SO ₂ and CO)				x
Operating Permit Program	x			

1.3.2 Hazardous Air Pollutants

No limits have been set in the permit for Hazardous Air Pollutants (HAP), and currently no ambient standards exist for HAPs. Section 112(n)(1)(A) of the Clean Air Act mandates that the U.S. Environmental Protection Agency (EPA) perform a study, to be presented in a report to Congress, of the hazards to public health reasonably anticipated to occur as a result of emissions of the HAP's by fossil fuel-fired electric utility steam generating units. The report will include; an assessment of HAP emission factors and rates from fossil fuel fired utility boilers, consideration of control strategies, and a determination as to whether HAPs emission control from these sources is warranted. The study is referred to as the "utility HAP study." EPA has received many extensions to the deadline for submittal of this report. The report was originally due to Congress in November of 1993. The latest deadline was May 31, 1996, and was not met. In October of 1996, the interim draft report was finally submitted. This draft report did not contain information on HAP control techniques but another report due later this year will contain this information. The MPCA will amend any existing permit to be consistent with EPA's rulemaking.

The Utility HAP study will develop more accurate emission factors for various boiler types for HAPs than exist now. Currently, emission factors that are available are not considered to be highly accurate. Nonetheless, LTV Steel was required to estimate HAP emissions using available factors and submit those estimates with their Part 70 permit application. Those estimates are attached.

2. Applicable Rules

2.1 Federal New Source Review

The LTV Steel Power Plant is in an attainment area for all pollutants, and so the applicable new source review regulations are found under 40 CFR § 52.21. The facility is classified as a major source as defined in 40 CFR § 52.21. All four of the facility's boilers (Nos. 1-4) existed prior to the effective dates of that program, and were not subject to it when installed.

2.2 Federal New Source Performance Standards

All four boilers were constructed prior to the effective date of the new source performance standards and thus do not apply.

2.3 Acid Rain Program

Title IV of the Clean Air Act Amendments of 1990, requires electric utilities to substantially reduce emissions of Sulfur Dioxide (SO₂) and Nitrogen Oxides (NO_x), the primary pollutants that contribute to acid rain. Through the requirement that utilities hold sulfur dioxide allowances for each ton of SO₂ they emit, the EPA plans to cut annual national SO₂ emissions by about a factor of two. NO_x emissions reductions will be controlled by emission limits set for each type of utility boiler, on a lb/mmBtu basis. EPA is in the process of developing rules that set the new emission limits.

The regulation takes effect in two phases. Phase I took effect in 1995, and Phase II will take effect in the year 2000. The LTV Steel Power Plant is not subject to Phase I or Phase II and thus the program does not apply to them. LTV wrote to the EPA on December 22, 1994, requesting an applicability determination on the Phase II program (see letter in application to Brian McLean from William Bumpers (attorney for LTV)). This letter was never formally responded to. I then went ahead and determined the Acid Rain program did not apply to LTV after talking with Rachael Rineheart from Region V, after talking with staff in Brian McLeans office, and after referring to the guidance available on Phase II applicability.

2.4 National and State Ambient Air Quality Standards (40 CFR pt. 50)

The National Ambient Air Quality Standards, as found in 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, set the maximum concentration of pollutants allowed in the ambient air. As such, they apply to all air emissions sources. Computer dispersion modeling will be used to determine whether a facility is in compliance with these standards by predicting the maximum ambient concentrations of pollutants that will result from maximum facility operation. The Air Quality Division is requiring this modeling for all sources with potential emissions greater than 100 tons per year of PM₁₀, SO₂, or NO_x. If that modeling shows that lower emission limits are needed to ensure compliance with ambient standards, the lower emission limits will be incorporated into the reissuance of the Title V permit. LTV Steel has completed dispersion modeling as part of the previous Air Emission Permit (No. 48A-91-OT-1). The MPCA is asking that modeling be redone if the previous modeling was performed prior to 1988, since newer models exist. LTV's modeling was done after 1988, and thus the MPCA is not asking for them to remodel the facility for this permit.

The permit contains SO₂ limits for all boilers that were derived from the results of the computer dispersion modeling already performed. Those limits will remain in the permit

2.5 National Emission Standards for Hazardous Air Pollutants

At this time, there are no promulgated or proposed standards for utility boilers, industrial boilers, combustion turbines, or diesel engines.

2.6 State Performance Standards

Boilers 1, 2, and 3 are subject to Minnesota Rules for Existing Indirect Heating Equipment. However it should be noted that the particulate matter standard for these boilers is more stringent than the rule requires. The standard states the limit as 0.6 lb/MMBtu whereas the limitation in this permit is 0.3 lb/MMBtu. This limit was derived as part of the permit previous to this Title V permit and was not based on ambient air quality modeling and attainment with the ambient standards. This was a negotiated limit because the agency felt the boilers and their accompanying electrostatic precipitators could achieve particulate emissions control much greater than the 0.6 lb/MMBtu. The diesel engines for the emergency generators are subject to Minnesota Standards of Performance for Stationary Internal Combustion Engines, and the coal and ash handling equipment are subject to Minnesota Standards for Industrial Process Equipment.

2.7 Environmental Assessment

No new construction or increases in emissions are allowed by this permit. Consequently, no environmental assessment is required.

2.8 Mercury Emissions

Coal-fired power plants emit mercury because it exists in trace quantities in coal. Mercury is an environmental problem because it is a neurotoxin and can concentrate in fish to the point that consumption of fish is hazardous. Virtually all mercury reaches lakes through air pollution, which is the result of many sources, some near and some far away. According to the 1994 MPCA report "Strategies for Reducing Mercury in Minnesota", coal-fired power plants constitute approximately 25 percent of the states man-made mercury emissions, excluding emissions from paint and fungicides (mercury is no longer used in these products). Municipal waste combustors are the second-largest category of mercury emitters, accounting for roughly 20 percent of the state's mercury emissions.

No regulations currently exist which require emissions control or set emission limits for coal-fired power plants. Mercury emission limits were recently promulgated for Municipal Waste Combustors (MWC). However, emissions from coal-fired power plants typically contain one-tenth the concentration of mercury found in exhaust gas from waste combustors (although the concentration of mercury in waste combustor emissions is decreasing as mercury use in products decreases). Therefore mercury control technology which is effective for a MWC is not necessarily transferable to a coal-fired power plant. Various groups, including the Electric Power Research Institute, are in the process of developing technology for reducing mercury emissions from coal combustion.

EPA is currently working on two studies which relate to mercury emissions: the Electric Utility HAPs study, and the Mercury Study. Federal regulatory programs aimed at reducing mercury emissions from power plants may result from one or more of these EPA projects.

The MPCA Mercury Task Force is considering working on a state initiative to reduce mercury emissions. The proposed initiative would apply to all significant mercury sources, including coal-fired power plants. As of August, 1996, the Task Force is awaiting funding and soliciting input from interested parties to determine who would support development of a state or regional mercury strategy.

The mercury requirements from the previous permit were carried over into this permit with the exception of changing the submittal of the mercury content of coal analyses from quarterly to semiannually.

3. Requirements

3.1 Total Facility Requirements:

All general requirements and some site specific conditions are listed at the total facility level. (See attached CD-01 forms for specific limits). Overall, the Permittee will be required to submit an annual report evaluating the compliance status of the facility for the past calendar year, and to report deviations from permit conditions each six months. The total facility requirements also include requirements for recordkeeping, inspection and entry, the requirements to submit an operation and maintenance plan, deviations notifications, application for amendment, the acid and alkaline fallout limits, requirements for procedures for notifications in the event of equipment shutdown/breakdown, and submittal of a fugitive emissions control plan.

3.2 GP001 EU001, EU002, and EU003 (Power Boilers 1-3)

Applicable Regulations: The emission limits for SO₂ were derived from computer dispersion modeling that predicts compliance with ambient standards. The mercury content in coal was transferred from the existing permit to this Title V permit as is. The frequency of testing data submittal was changed from quarterly to semiannually. This was done to be more consistent with the new Title V format of semiannual reporting.

Compliance Demonstration: LTV is required to monitor the SO₂ emission rate in lb/mmBtu to demonstrate compliance with the emission limit. Semiannually LTV is required to submit the mercury content data for the previous six months.

3.3 SV001 Power Boiler 1

Applicable Regulations: See the attached CD-01 form.

Compliance Demonstration: See the attached CD-01 form.

3.4 SV002 Power Boiler 2

Applicable Regulations: See the attached CD-01 form.

Compliance Demonstration: See the attached CD-01 form.

3.5 SV003 Power Boiler 3

Applicable Regulations: See the attached CD-01 form

Compliance Demonstration: See the attached CD-01 form.

3.6 EU004 Heating Boiler

Applicable Regulations: See the attached CD-01 form

Compliance Demonstration: See the attached CD-01 form.

3.7 EU005 Cold Start Generator

Applicable Regulations: See the attached CD-01 form

Compliance Demonstration: See the attached CD-01 form.

3.8 EU006 Ash Collection Baghouse

Applicable Regulations: See the attached CD-01 form

Compliance Demonstration: See the attached CD-01 form.

4.0 Other Issues

4.1 Differences in Existing and New Permit:

Differences between the draft permit and the existing permit include: a stack testing frequency of once every five years for all three boilers instead of once every year (this is due to the MPCA's policy that allows a five year frequency for boilers that have recently tested at less than 60 percent of the emission standard, which LTV has done), an allowance to request the discontinuation of the ambient air monitoring network for dust emissions after one year if compliance has been shown (this condition is being input into the permit because the facility has shown compliance with the ambient particulate matter standards for the past three years), and a reduction in the frequency of submittal of coal analysis data, required for mercury content, from quarterly to semiannually (this change is being made to be more consistent with the new Title V format).

The MPCA mercury group was involved in renegotiating the mercury conditions in this permit. At one point the MPCA was planning on eliminating the mercury content in coal limit and the testing of the coal in exchange for LTV removing the mercury from the instrumentation at the plant as well as other conditions such as working with the Lake Superior Partnership group and looking at energy efficiency at the plant. We also looked at requiring an annual mercury pollution prevention report similar to the Potlatch Corporation Cloquet permit requirement. The two sides could not come to agreement in a timely fashion and thus our approach was to issue the Title V permit and deal with this issue as an amendment later on if LTV desires.

5. Conclusion

Based on the information provided by LTV Steel Mining Company, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 03100001-001, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Attachments:

1. Emission Calculation Sheets
2. GI-07 Facility Emission Summary

Need further information?

Permit Engineer: Brett Ballavance, P.E.
Telephone No.: (218)723-4837

BAB:lao