Iowa Department of Natural Resources
Construction Permit
For Emission Source

Permit Holder

Firm: Muscatine Power and Water

Responsible Party:

Paul Wedel
Director, Operations

(319) 262-3304

Muscatine Power and Water
3205 Cedar Street
Muscatine, Iowa 52761

Contact:

Donald Pauken
Manager, Environmental Affairs

(319) 262-3394

Muscatine Power and Water
3205 Cedar Street
Muscatine, Iowa 52761

Source

Source: Boiler 7

Control Equipment: Electrostatic Precipitator

Location: Muscatine Power and Water
1700 Industrial Connector Road
Muscatine, Iowa

DNR Project: 95-267
Plant No. 70-01-011

This equipment has been evaluated for conformance with rule 567 --- 22.3(1) of the Iowa Department of Natural Resources and found to have the potential to comply.

Under the Direction of the Director of the Department of Natural Resources

September 14, 1995
Date

74-A-175-S
Permit Number

PERMIT CONDITIONS

The owner of the facility shall assure that the installation and operation and maintenance of this facility is in compliance with all of the following conditions.

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1. Departmental Review

This permit is issued based on information submitted by the applicant. Any misinformation, false statements or misrepresentations by the applicant shall cause this permit to be void. In addition, the applicant may be subject to criminal penalties according to the Iowa Code Section 455B.146A.

This permit is issued under the authority of the Iowa Administrative Code (IAC) 567-22.3. The proposed equipment has been evaluated for conformance with Iowa Code Chapter 455B; IAC Chapters 20-30; and 40 C.F.R. Part 60 and has the potential to comply.

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. This Department assumes no liability, directly or indirectly, for any loss due to damage to persons or property caused by, resulting from, or arising out of the design, installation, maintenance or operation of the proposed equipment.

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2. Construction

This permit shall become void if construction of the proposed project has not been started within eighteen (18) months after the date of the issuance of this permit and completed within (30) months after issuance of this permit.

It is the owner's responsibility to ensure that construction conforms to the plans and specifications and that adequate operation and maintenance is provided to ensure that no condition of air pollution is created. Any changes made in the final plans and specifications of the proposed equipment shall require a supplemental permit.

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3. Transferability

This permit is not transferable from one piece of equipment to another, nor from one location to another, unless the equipment is portable. When portable equipment for which a permit has been issued is to be transferred from one location to another, the Department shall be notified in writing at least thirty (30) days prior to transferring to the new location. The owner will be notified at least ten (10) days prior to the scheduled relocation if the relocation will cause a violation of the National Ambient Air Quality Standards. In such case a supplemental permit will be required for additional control equipment or equipment modifications needed to meet the standards.

4. Owner Responsibility

Issuance of this permit shall not relieve the owner of the responsibility to comply with provisions of the state implementation plan (SIP) and with the provisions of local, state, and federal laws, regulations, ordinances, and other requirements applying to this installation.

5. Disposal of Contaminants

Ultimate disposal of the air contaminant(s) collected by the control equipment shall meet all applicable rules administered by this Department.

6. Initial Compliance Testing

Pollutant	Testing Required	Test Method
TSP	No	N/A
PM_{10}	No	N/A
Opacity	No	N/A
SO_x	Yes	Continuous emission monitor, installed and certified pursuant to Condition 13
NO_x	No	N/A
VOC	No	N/A
CO	No	N/A

N/A = Not Applicable

7. Excess Emissions

Excess emissions during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if it is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. **An incident of excess emissions other than the above is a violation and may be subject to criminal penalties according to Iowa Code 455B.146A.** If excess emissions are occurring, either the control equipment causing the excess shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it in a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. A variance from this subrule may be available as provided for in Iowa Code Section 455B.143.

8. Emission Limits

Emissions shall not exceed the following:

Pollutant	lbs/hr	lb/million Btu	tons/year
TSP	121	0.42	530
PM10	N/A		N/A
SO_2	2,772 *	6	12,141 **
NO_x	N/A		N/A
VOC	N/A		N/A
CO	N/A		N/A

N/A = Not Applicable

* Beginning March 15, 1996, the combined total emission of sulfur dioxide from boiler 7 and boiler 8 shall not exceed 2,772 pounds per hour, averaged over a 24-hour calendar day. Permit conditions for Unit 7 SO_2 emissions which are specified in the Muscatine Power and Water PSD Permit as amended December 13, 1982 shall remain in effect through March 14, 1996.

** Beginning March 15, 1996, the combined total emission of sulfur dioxide from boiler 7 and boiler 8 shall not exceed 12,141 tons per year.

9. Operating Limits

Total emission of sulfur dioxide from unit 7 and unit 8 shall not exceed 2,772 pounds per hour, averaged over a 24-hour calendar day.

10. Source Emission Characteristics

Emission Point

The source shall be connected to the stack as designated below.

Height	Size	Temperature	Rated Flowrate
220 feet	106 in. inside diameter	358 F	143,410 acfm

Equipment

Electrostatic Precipitator

11. Performance Tests

As specified in Permit Condition 6, the owner shall verify compliance with the emission limitations contained in Permit Condition 8 within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.

A pretest meeting shall be held at a mutually agreeable site no less than thirty (30) days prior to the date of each test. Each meeting shall be attended by representatives of the DNR central office, the owner and the testing firm, if any. It is the responsibility of the owner to coordinate and schedule each meeting.

The Department reserves the right to impose additional, different, or more detailed testing requirements. It is the responsibility of the owner to locate the test ports to be used during compliance testing.

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12. Operating Condition Monitoring

The owner shall maintain a file of computations to show the total hourly emission level. The owner shall submit quarterly excess emission reports as specified in 567 --- 25.1(6) of the Iowa rules. Oral and written excess emission reporting shall be required as specified in Chapter 24 of the Iowa rules.

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13. Continuous Emission Monitoring

Muscatine Power and Water shall install, operate, maintain, and quality assure a continuous emission monitoring system (CEMS) for measuring sulfur dioxide emissions in units of lbs/hr, lb/day, and tons/year on or before March 15, 1996. The CEMS shall consist of sulfur dioxide continuous emission monitor, exhaust flow equipment, and data acquisition and handling system (DAHS) meeting the design and performance specifications found in 40 CFR Part 75. The CEMS shall be operated during any period that any fuel is combusted in the boilers.

Muscatine Power and Water shall successfully complete CEMS installation and certification tests in accordance with performance requirements found in 40 CFR Part 75, Appendix A, and provide the results of the certification tests on or before March 15, 1996. Certification tests shall include separate demonstrations for the SO_2 and flow monitors, including a 7-day calibration error test, cycle-response time test, linearity test, and relative accuracy test audit (RATA) for the SO_2 monitor and a 7-day calibration error test and three (3) load RATA for the flow equipment. Load ranges can be found in 40 CFR Part 75, Appendix A, Section 6.5.2.

Muscatine Power and Water shall perform all quality assurance activities at the frequencies described in 40 CFR Part 75, Appendix B. These activities generally include a daily calibration error, quarterly linearity test, and semi-annual or annual RATA. Any calibration gases used to conduct quality assurance activities shall meet the traceability protocol requirements of 40 CFR 75, Appendix H.

13. Continuous Emission Monitoring (continued)

Muscatine Power and Water shall account for any missing data periods using the procedures outlined in 40 CFR Part 75, Subpart D. These procedures generally provide for less stringent estimation techniques for monitors with high availability and more stringent techniques for monitors with less than 90 percent availability. Missing data shall be evaluated separately for each component of the CEMS and include any period of time during boiler operation for which a CEMS component has not operated or otherwise is not able to provide quality assured data. 40 CFR Part 75, Appendix B, defines the procedures for determining whether data are valid or out-of-control.

Muscatine Power and Water shall use the procedures found in 40 CFR 75, Appendix F to calculate the hourly SO_2 mass rate for boilers 7 and 8. At the conclusion of each clock hour on a boiler operating day, Muscatine Power and Water shall calculate aggregate daily emissions, summing all SO_2 emissions from boilers 7 and 8 for that day. Likewise, at the conclusion of each clock hour on a boiler operating day, Muscatine Power and Water shall calculate the aggregate hourly emissions average for boilers 7 and 8, as the sum of all hourly emissions from boilers 7 and 8 divided by the time elapsed on that day. Lastly, Muscatine Power and Water shall calculate aggregate annual emissions from boilers 7 and 8, either as the sum of all hourly emissions or sum of aggregate daily aggregate emissions collected or substituted since January 1 of the current emissions year. For the purposes of this condition, a boiler operating day is any day in which any fuel is combusted in any of the affected boilers. A day shall be defined as the time between 12:01 AM and 12:00 midnight.

Muscatine Power and Water shall periodically review the aggregate hourly emissions average and aggregate annual emissions data produced by the CEMS. If the review indicates that either may exceed the emission limitations found in Condition 8, Muscatine Power and Water shall take steps to mitigate SO_2 emissions to, at, or below the applicable limitation.

Muscatine Power and Water shall maintain an on-site record of CEMS-related data for not less than two years from the origination. The record shall contain all hourly SO_2 and flow rate measurements, any missing data substitution, subsequent aggregate and averaging calculation, results of quality assurance and averaging calculations, results of quality assurance activities, and all performance test results. These records shall be made readily available for inspection by the Iowa Department of Natural Resources, the Environmental Protection Agency, or any authorized agent of these agencies.

Muscatine Power and Water shall provide a written report of all exceedences of the aggregate hourly emissions average for boilers 7 and 8 no later than 30-days following the end of each calendar quarter on forms provided by the department. In addition, Muscatine Power and Water shall report the aggregate annual emissions for boilers 7 and 8 in each quarterly report, summarizing the year-end totals in the fourth-quarter report.

14. Notification, Reporting and Recordkeeping

A. The owner shall furnish the DNR the following written notifications:

(1) The date construction, installation, or alteration is initiated postmarked within seven (7) days following initiation of construction, installation, or alteration.

(2) The date of intended startup at least ten (10) days before the equipment or control equipment involved is placed into operation.

(3) The actual date of startup postmarked within fifteen (15) days following the start of operation.

(4) The date of each compliance test required by Permit Condition 6 at least thirty (30) days before the anticipated compliance test date.

(5) The date of each pretest meeting at least fifteen (15) days before the proposed meeting date. The owner shall request a proposed test plan protocol questionnaire at least sixty (60) days prior to each compliance test date. The completed questionnaire shall be received by the DNR at least fifteen (15) days before the pretest meeting date.

(6) Transfer of equipment ownership within 30 days of the occurrence.

(7) Portable equipment relocation at least thirty (30) days before equipment relocation.

B. The owner shall furnish the DNR with the following reports:

(1) Oral

a. Excess emissions in accordance with 567 IAC 24.1.

(2) Written

a. A written compliance demonstration report for each compliance testing event, whether successful or not, postmarked not later than forty-five (45) days after the completion of the test period.

b. Operation of this source outside of those limits specified in Permit Condition 8, and according to the time limits set forth in 567 IAC 24.1.

14. Notification, Reporting and Recordkeeping (continued)

C. The owner shall send all notifications, reports and correspondence to:

Mr. Peter Hamlin, Chief
Air Quality Bureau
Iowa Department of Natural Resources
Wallace State Office Building
Des Moines, IA 50319-0034

D. The owner shall send correspondence concerning stack testing to:

Mr. David Phelps Telephone: (515) 281-8189
Air Quality Bureau
Iowa Department of Natural Resources
Wallace State Office Building
Des Moines, IA 50319-0034

E. All data, records, reports, documentation, construction plans, and calculations required under this permit shall be available at the plant during normal business hours for inspection and copying by federal, state, or local air pollution regulatory agencies and their authorized representatives for a minimum of three (3) years from the date of recording.

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15. Permit Violations

Knowingly committing a violation of this permit may carry a criminal penalty of up to $10,000 per day fine and 2 years in jail according to Iowa Code Section 455B.146A.

END OF PERMIT CONDITIONS