Iowa Department of Natural Resources
Air Quality Construction Permit

Permit Holder

Firm: MidAmerican Energy Company – Walter Scott, Jr. Energy Center

Contact:

Mark Podany
Manager, Environmental & Regulatory Compliance

(712) 366-5363

7215 Navajo Street
Council Bluffs, IA 51501

Responsible Party:

Matthew L. Finnegan
General Manager

7215 Navajo Street
Council Bluffs, IA 51501

Permitted Equipment

Emission Unit(s): WSEC 4 Boiler (EU 141; 7,675 MMBTU/hr) and Fugitive Emissions

Control Equipment: Boiler controls:
Baghouse (CE 141A) for particulates, metals, and Hg; Low NO_x Burners (CE 141D), Overfire Air, and Selective Catalytic Reduction (SCR, CE 141B) for NO_x; Lime Spray Dryer Flue Gas Desulfurization (FGD, CE 141C) for SO_2, acid gases, and Hg; Activated Carbon Injection (ACI, CE 141E) for Hg; and Aqueous calcium bromide (optional) & aqueous calcium chloride (optional) for Hg

Fugitive Emissions: See Condition 14

Emission Point: 141

Equipment Location: 7215 Navajo Street
Council Bluffs, IA 51501

Plant Number: 78-01-026

Permit No.	Proj. No.	Description	Date	Testing
03-A-425-P	02-528	Original PSD permit.	June 17, 2003	Yes
03-A-425-P1	06-250	Modified PM_{10} allowable for NAAQS.	September 8, 2006	Yes
03-A-425-P2	06-541	Removed 112(g) limits.	May 24, 2007	Yes
03-A-425-P3	08-516	Added 112(g) limits.	October 27, 2010	Yes
03-A-425-P4	11-349	Allow for combustion of treated coal	December 5, 2011	No

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

PERMIT CONDITIONS

The permit holder, owner and operator of the facility shall assure that the installation, operation, and maintenance of this equipment is in compliance with all of the conditions of this permit and all other applicable requirements. This permit and its provisions are subject to the appeal rights set forth in Iowa Administrative Code (IAC), rule 561—7.5.

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 Iowa Code Section 455B.146A.

This permit is issued under the authority of 567 Iowa Administrative Code (IAC) 22.3. The proposed equipment has been evaluated for conformance with Iowa Code Chapter 455B; 567 IAC Chapters 20 – 34; and 40 CFR Parts 51, 52, 60, 61, and 63 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. The DNR 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.

2. Transferability

As limited by 567 IAC 22.3(3)"f", this permit is not transferable from one location to another or from one piece of equipment 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 DNR shall be notified in writing at least thirty (30) days prior to transferring to the new location (See Permit Condition 8.A.6). 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 (NAAQS). In such case, a supplements permit shall be required prior to the initiation of construction of additional control equipment or equipments modifications needed to meet the standards.

The permit is for the construction and operation of specific emission unit(s), control equipment, and emission point as described in this permit and in the application for this permit. Any owner or operator of the specified emission unit(s), control equipment, or emission point, including any person who becomes an owner or operator subsequent to the date on which this permit is issued, is responsible for compliance with the provisions of this permit. No person shall construct, install, reconstruct or alter this emissions unit, control equipment or emission point without the required revisions to this permit.

3. Construction

It is the owner's responsibility to ensure that construction conforms to the final plans and specifications as submitted, and that adequate operation and maintenance is provided to ensure that no condition of air pollution is created.

This permit shall become void if any one of the following conditions occur:

(1) the construction or modification of the proposed project, as it affects the emission point(s) permitted herein, is not initiated within eighteen (18) months after the permit issuance date; or
(2) the construction or modification of the proposed project, as it affects the emission point(s) permitted herein, is not completed within thirty-six (36) months after the permit issuance date; or
(3) the construction or modification of the proposed project, as it affects the emission point(s) permitted herein, is not completed within a time period specified elsewhere in this permit.

3. Construction (Continued)

3.a. Original Permits

The owner or operator shall obtain a new permit if any changes are made to the final plans and specifications submitted for the proposed project.

3.b. Modified or Supplemental Permits

This permit supersedes any and all previous permits issued for the emission point(s) or emission unit(s) permitted herein.

However, the permittee may continue to act under the provisions of the previous permit for the emission point(s) or emission unit(s) until one of the following conditions occurs:

(1) The proposed project authorized by this permit is completed as it affects the emission point(s) permitted herein; or
(2) The permit becomes void.

The owner or operator shall obtain a new permit if:

(1) Any changes are made to the final plans and specifications submitted for the proposed project; or
(2) This permit becomes void.

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4. Credible Evidence

As stated in 567 IAC 21.5 and also in 40 CFR Part 60.11(g), where applicable, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions specified in this permit or any provisions of 567 IAC Chapters 20 through 34.

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5. Owner Responsibility

Issuance of this permit shall not relieve the owner or operator of the responsibility to comply fully with applicable provisions of the State Implementation Plan (SIP), and any other requirements of local, state, and federal law.

The owner or operator of any emission unit or control equipment shall maintain and operate the equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions, as required by paragraph 567 IAC 24.2(1) *"Maintenance and Repair"*.

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6. Excess Emissions

Excess emissions during a period of startup, shutdown, or cleaning of control equipment are not a violation of the emission standard if it is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions except when another regulation applicable to the unit or process provides otherwise. Cleaning of control equipment, which does not require the shutdown of 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, as specified in 567 IAC 24.1.

An incident of excess emissions shall be orally reported to the appropriate DNR field office within eight (8) hours of, or at the start of, the first working day following the onset of the incident (See section 8.B.1). A written report of an incident of excess emissions shall be submitted as a follow-up to all required oral reports within seven (7) days of the onset of the upset condition.

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7. Disposal of Contaminants

The disposal of materials collected by the control equipment shall meet all applicable rules.

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8. 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 thirty (30) days following initiation of construction, installation, or alteration;
   2. The actual date of startup, postmarked within fifteen (15) days following the start of operation;
   3. The date of each compliance test required by Permit Condition 12, at least thirty (30) days before the anticipated compliance test date;
   4. 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;
   5. Transfer of equipment ownership, within 30 days of the occurrence;
   6. Portable equipment relocation, at least thirty (30) days before equipment relocation.

B. The owner shall furnish the DNR with the following reports:
   1. Oral excess emissions reports, in accordance with 567 IAC 24.1;
   2. A written compliance demonstration report for each compliance testing event, whether successful or not, postmarked not later than six (6) weeks after the completion of the test period unless other regulations provide for other notification requirements. In that case, the more stringent reporting requirement shall be met;
   3. Operation of this emission unit(s) or control equipment outside of those limits specified in Permit Conditions 10 and 14 and according to the schedule set forth in 567 IAC 24.1.

C. The owner shall send correspondence regarding this permit to the following address:

Construction Permit Supervisor
Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite 1
Windsor Heights, IA 50324
Telephone: (515) 281-8189
Fax: (515) 242-5094

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

Stack Testing Coordinator
Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite 1
Windsor Heights, IA 50324
Telephone: (515) 242-6001
FAX: (515) 242-5127

E. The owner shall send reports and notifications to:

Compliance Unit Supervisor Air Quality Bureau Iowa Department of Natural Resources 7900 Hickman Road, Suite 1 Windsor Heights, IA 50324 Telephone: (515) 281-8448 Fax: (515) 242-5127	DNR Field Office 4 1401 Sunnyside Lane Atlantic, IA 50022 Telephone: (712) 243-1934 Fax: (712) 243-6251

8. Notification, Reporting, and Recordkeeping (Continued)

F. 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 two (2) years from the date of recording.

9. 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.

10a. BACT Emission Limits

Pollutant	Tons/Yr[1]	Additional Limits
State Particulate Matter (PM)	NA	0.027 lb/MMBTU[2]
PM_{10}	NA	0.025 lb/MMBTU[2]
Opacity[3]	NA	5%[4]
Sulfur Dioxide (SO_2)[3]	3,362	0.1 lb/MMBTU[5]
Nitrogen Oxides (NO_X)[3]	2,353	0.07 lb/MMBTU[5]
Volatile Organic Compounds	121	0.0036 lb/MMBTU[2]
Carbon Monoxide (CO)[3]	5,177	0.154 lb/MMBTU[6]
Lead (Pb)	NA	0.000026 lb/MMBTU
Flourides (F)	NA	0.0009 lb/MMBTU
Total Reduced Sulfur (TRS)	NA	0.001 lb/MMBTU
Sulfuric Acid Mist (H_2SO_4)	NA	0.00421 lb/MMBTU

[1] Standard is a 12-month rolling total.
[2] Standard is expressed as the average of three (3) stack test runs.
[3] Compliance with the emission standards shall be demonstrated through the use of Continuous Emission Monitoring Systems (CEMS). See Condition 12 and Condition 16 for more information on compliance with the use of CEMS.
[4] Standard is a three (3) hour average.
[5] This standard is a 30-day rolling average not including periods of startup, shutdown, and malfunction.
[6] Standard is a one (1) calendar day average.

10b. 112(g) [Case-by-Case Maximum Achievable Control Technology (MACT)] Emission Limits

Pollutant	Lb/MMBTU (unless otherwise noted)
Mercury	0.013 lbs/hr[1]
Hydrogen Chloride (HCl)	0.0029[2]
Total Selected Metals (TSM)[3]	0.000104[2]
Federal PM[4]	0.018[2]
Acetaldehyde[5]	0.0000058[2]
Benzene[5]	0.0000296[2]
Isophorone[5]	0.00000745[2]
Toluene[5]	0.000372[2]

[1] Prior to CEMS certification, the standard is expressed as the average of three (3) runs. Following the CEMS certification, the standard is expressed as a thirty (30) day rolling average. This limit is for total mercury emissions. Total mercury includes particulate bound mercury and both forms of vapor phase mercury (elemental and oxidized).
[2] Standard is expressed as the average of three (3) stack test runs.
[3] Total Selected Metals (TSM) means the combination of the following metallic HAP: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium.
[4] The federal particulate matter standard listed is a surrogate to show continual compliance with the total selected metals standard.
[5] The 112(g) emission limits will be reevaluated after actual test data has been gathered in order to determine if a new emission limit needs to be established whether that be higher or lower than the current emission limit. See permit Conditions 12 and 14.N. on testing requirements and the procedure for establishing the future limits.

10c. NSPS Limits

Pollutant	Emission Standard[1]	Reference (567 IAC)
Federal PM	13 ng/J heat input[2]	23.1(2)"z"[3]
Opacity[4]	20%[5]	23.1(2)"z"[3]
SO_2[4]	520 ng/J heat input[6]	23.1(2)"z"[3]
NO_X[4]	200 ng/J gross energy output[7]	23.1(2)"z"[3]

[1] Standard is expressed as the average of three (3) runs.
[2] 13 ng/J = 0.03 lb/MMBTU. See 40 CFR §60.42Da(a).
[3] IAC reference to New Source Performance Standards (NSPS) Subpart Da (Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978; 40 CFR §60.40Da – 40 CFR §60.52Da).
[4] Compliance with the emission standards shall be demonstrated through the use of a CEMS. See Condition 12 and Condition 16 for more information on compliance with the use of CEMS.
[5] Opacity shall not exceed 20% (6-minute average), except for one (1) 6-minute period per hour of not more than 27% opacity. See 40 CFR §60.42Da(b).
[6] 520 ng/J = 1.20 lb/MMBTU. Compliance with this standard is determined on a 30-day rolling average basis. See permit Condition 14.D. See 40 CFR §60.43Da(a).
[7] 200 ng/J = 1.6 lb/megawatt-hour (gross). Compliance with this standard is determined on a 30-day rolling average basis. See 40 CFR §60.44Da(d)(1).

10d. Other Emission Limits

Pollutant	lb/hr	Reference (567 IAC)
PM_{10}	191.9[1, 2]	NAAQS
SO_2[3]	1,050.0[1, 4]	NAAQS
NO_X[3]	537.3[5, 6]	NAAQS
CO[3]	1,966.0[5, 7]	NAAQS
Pb	0.20[2, 5]	NAAQS

[1] Emission rate used in the computer aided dispersion model to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS) or of the increment.
[2] Standard is expressed as the average of three (3) runs
[3] Compliance with the emission standards shall be demonstrated through the use of a CEMS. See Condition 12 and Condition 16 for more information on compliance with the use of CEMS.
[4] Standard is expressed as a three (3) hour rolling average.
[5] Emission rate used in the computer aided dispersion model to demonstrate no exceedances of the NAAQS.
[6] Standard is expressed as a calendar month average.
[7] This standard is expressed as a one (1) hour standard.

11. Emission Point Characteristics

This emission point shall conform to the specifications listed below:

Parameter	Value
Stack Height, (ft, from the ground)	551
Discharge Style	Unobstructed vertical
Stack Opening, (inches, dia.)	296
Exhaust Temperature (°F)	165
Exhaust Flowrate (scfm)	2,352,100

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

12. Compliance Demonstration(s) and Performance Testing

Pollutant	Initial	Subsequent	Methodology	Frequency
PM (federal)	Yes[1]	No	Stack test	One time
PM (state)	Yes	No	Stack test	One-time
PM_{10}	Yes	No	Stack test	One-time
Opacity	Yes[1]	Yes[2]	COMS[3]	Continuous
SO_2	Yes[1]	Yes[2]	CEMS	Continuous
NO_X	Yes[1]	Yes[2]	CEMS	Continuous
VOC	Yes	No	Stack test	One-time
CO	Yes	Yes[2, 4]	CEMS[5]	Continuous
Pb	Yes	No	Stack test	One-time
F	Yes	No	Stack test	One-time
TRS	Yes	No	Stack test	One-time
H_2SO_4	Yes	No	Stack test	One-time
Hg	Yes	Yes[6]	CEMS[7]	Continuous
HCl	Yes[8]	No	Stack test	One-time
TSM	Yes	No	Stack test	One-time
Acetaldehyde	Yes	Yes[4]	Stack test	Quarterly
Benzene	Yes	Yes[4]	Stack test	Quarterly
Isophorone	Yes	Yes[4]	Stack test	Quarterly
Toluene	Yes	Yes[4]	Stack test	Quarterly
Silt loading	Yes	Yes[9]	Performance Test	Monthly[10]

[1] See NSPS Subpart Da (40 CFR §60.40Da – 40 CFR §60.52Da) for initial performance testing requirements.

[2] Compliance shall be measured continuously through the use of Continuous Emission Monitoring Systems (CEMS).

[3] Per 40 CFR §60.48Da(p), the owner or operator can meet the compliance provisions by installing, certifying, and operating a CEMS measuring PM emissions discharged to the atmosphere and record the output of the system as specified in 40 CFR §60.48Da(p)(1) – 40 CFR §60.48Da(p)(8). The owner or operator is allowed to install a PM CEMS in lieu of a COMS for the NSPS, but the owner or operator is still required to install the COMS for measuring opacity to determine compliance with the BACT limit listed in Condition 10a.

[4] Testing shall be conducted once per quarter for the first year after the issuance date of the permit 03-A-425-P3. The tests shall be conducted with a minimum of forty-five (45) days between tests. The owner or operator shall operate and maintain a certified CO CEMS prior to the first test and during each subsequent test and shall maintain records to document having conducted the required quality assurance tests to demonstrate the continued certification and accuracy of the CO CEMS during the tests.

[5] If demonstrated, the CO CEMS data may also be used as a surrogate to demonstrate continual compliance with the organic HAP (acetaldehyde, benzene, Isophorone, and toluene) emission standards listed in Condition 10b. See Condition 14.N. for the requirements concerning CO and organic HAP emissions.

[6] Compliance shall be measured continuously through a combination of the use of Hg CEMS and stack test results. The CEMS shall be used to measure vapor phase mercury emissions continuously. Particulate bound mercury emissions shall be calculated through the use of the upper bound 95% confidence level of the particulate bound mercury fraction from the test results from all stack tests conducted on the unit. All runs shall be used unless otherwise approved by the Department. The formula for the upper bound 95% confidence level is:

$$95\% = \text{avg} + t\frac{S}{\sqrt{n}}$$

where: avg = average of the test runs
S = standard deviation of the test runs
t = percentage point of the *t* distribution with n-1 degrees of freedom
n = number of test runs

Total mercury shall then be calculated by adding the result of the upper bound 95% confidence level to the result of the mercury CEMS data.

12. Compliance Demonstration(s) and Performance Testing (Continued)

[7] Until such time that the owner or operator can certify its mercury CEMS per the EPA approved certification process, the owner or operator shall:

- Conduct Hg testing once per quarter for total mercury. The tests shall be conducted with a minimum of forty-five (45) days between tests and
- Conduct representative coal sampling of the fuel being fired during the test. The coal samples shall meet the following conditions:
  i. The sample shall be representative of the fuel fired on that day during the test.
  ii. Each composite sample shall meet the sampling requirements for special purpose sampling of ASTM D2234-76, any subsequent amendment to the ASTM procedure, or any future ASTM amendment approved by the Department.
  iii. The composite sample shall be collected as close to an "as-fired" condition as practicable.
  iv. The proposed location, sampling, and analytical collection methodology shall be submitted to and approved by the Department as part of the testing protocol.

[8] If the aqueous calcium chloride solution for additional Hg control is used, an additional compliance test shall be conducted within ninety (90) days of the initial use of the aqueous calcium chloride solution. The test shall be done with the maximum amount of aqueous calcium chloride solution intended to be used.

[9] Performance testing is required to be completed to demonstrate compliance with a silt content of 2.8 g/m^2.

[10] Performance testing on the haul road surface silt loading shall be completed once per month for the first year of operation. For each performance test, silt loading sampling shall be done for at least 3 different locations and immediately prior to the next cleaning cycle. After the first year of operation, the data shall be analyzed to determine whether or not further testing is required.

NOTES:

1. The initial compliance testing for all pollutants except for acetaldehyde, benzene, isophorone, and toluene was completed from May 8, 2007 – May 12, 2007. The testing requirements for acetaldehyde, benzene, isophorone, and toluene are new requirements.
2. The one (1) year of silt load testing was completed and the Department waived the requirement for the monthly silt load testing in a May 27, 2008 letter from Dennis Thielen of the Department to Donald Mohning of MidAmerican Energy.

If an initial compliance demonstration specified above is testing, the owner shall verify compliance with the emission limitations contained in Permit Condition 10 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.

If subsequent testing is specified above, the owner shall verify compliance with the emission limitations contained in Permit Condition 10 according to the frequency noted above.

If testing is required, the owner shall use the test method and run time listed in the table below unless another testing methodology is approved by the Department prior to testing.

Pollutant	Test Run Time	Test Method
PM (federal)	2 hours	40 CFR 60, Appendix A, Method 5
PM (state)	2 hours	Iowa Compliance Sampling Manual Method 5
PM_{10}	3 hours	40 CFR 51, Appendix M, 201A with 202
Opacity	1 hour	40 CFR 60, Appendix A, Method 9
SO_2	1 hour	40 CFR 60, Appendix A, Method 6C
NO_X	1 hour	40 CFR 60, Appendix A, Method 7E
VOC	1 hour	40 CFR 60, Appendix A, Method 25A
CO	1 hour	40 CFR 60, Appendix A, Method 10
Pb	1 hour	40 CFR 60, Appendix A, Method 12
F	2 hours	40 CFR 60, Appendix A, Method 13B or Method 26A
TRS	1 hour	40 CFR 60, Appendix A, Method 16B
H_2SO_4	1 hour	40 CFR 60, Appendix A, Method 8
Hg	1 hour	40 CFR 60, Appendix A, Method 29
HCl	1 hour	40 CFR 60, Appendix A, Method 26
TSM	1 hour	40 CFR 60, Appendix A, Method 29
Acetaldehyde	1 hour	40 CFR 60, Appendix A, Method 18
Benzene	1 hour	40 CFR 60, Appendix A, Method 18
Isophorone	1 hour	40 CFR 60, Appendix A, Method 18
Toluene	1 hour	40 CFR 60, Appendix A, Method 18

12. Compliance Demonstration(s) and Performance Testing (Continued)

The unit(s) being sampled should be operated in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which this unit(s) will be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the Department that this unit(s) has been physically altered so that capacity cannot be exceeded, or the Department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the Department to determine whether this unit(s) is in compliance.

Each emissions compliance test must be approved by the Department. Unless otherwise specified by the Department, each test shall consist of three (3) separate runs. The arithmetic mean of three (3) acceptable test runs shall apply for compliance, unless otherwise indicated by the Department.

A pretest meeting shall be held at a mutually agreeable site no less than fifteen (15) days prior to the date of each test. Representatives from the Department shall attend this meeting, along with the owner and the testing firm, if any. It shall be the responsibility of the owner to coordinate and schedule the pretest meeting. The owner shall be responsible for the installation and maintenance of test ports. The Department shall reserve the right to impose additional, different, or more detailed testing requirements.

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13. NSPS and NESHAP Applicability

This emission unit is subject to Subparts A (General Provisions, 40 CFR §60.1 – 40 CFR §60.19) and Da (Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978, 40 CFR §60.40Da – 40 CFR §60.52Da) of the New Source Performance Standards (NSPS).

This emission unit is subject to Subparts A (General Provisions, 40 CFR §63.1 – 40 CFR §63.15) and B [Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections, Sections 112(g) and 112(j), 40 CFR §63.40 – 40 CFR §63.56] of the National Emission Standard for Hazardous Air Pollutants (NESHAP). Consistent with the requirements of 40 CFR §63.44, if the EPA Administrator promulgates an applicable emission standard under Section 112(d) or Section 112(h) of the Act, or if the permitting authority issues a determination under Section 112(j) of the Act, this permit will be modified as necessary to make the terms of this permit consistent with the applicable standard. The owner or operator is required to submit a permit application requesting a change.

The facility (plant number 78-01-026) is considered an affected source under 40 CFR 72, 73, 75, 76, 77, and 78 definitions as emission units at this source are subject to the acid rain emission reduction requirements or the acid rain emission limitations, as adopted by the Department by reference (See 567 IAC 22.120 – 567 IAC 22.148). This emission unit will be subject to the SO_2 allowance allocation, NO_x emission limitations, and monitoring provisions of the federal acid rain program.

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14. Operating Limits

Operating limits for this permit shall be:

A. This emission unit shall be limited to firing on coal and #2 fuel oil (for light off, startup, and flame stabilization).
B. The sulfur (S) content of the fuel used shall not exceed 0.625 lbs of S/MMBTU.
C. Per 40 CFR §60.42Da(a)(2), particulate matter (federal) emissions shall not exceed 1% of the potential combustion concentration (99% reduction) when combusting coal.
D. Per 40 CFR §60.43Da(a)(1) and 40 CFR §60.43Da(a)(2), sulfur dioxide emissions shall not exceed:
   (1) 520 ng/J (1.2 lb/MMBTU) heat input and 10% of the potential combustion concentration (90% reduction) when combusting coal, or
   (2) 30% of the potential combustion concentration (70% reduction), when emissions are less than 260 ng/J (0.60 lb/MMBTU) heat input. Compliance with this standard is determined on a 30-day rolling average basis.

14. Operating Limits (Continued)

E. Per 40 CFR §60.48a(d), during emergency conditions an affected facility with a malfunctioning flue gas desulfurization system may be operated if sulfur dioxide emissions are minimized by:
   (1) Operating all operable flue gas desulfurization system modules, and bringing back into operation any malfunctioned module as soon as repairs are completed,
   (2) Bypassing flue gases around only those flue gas desulfurization system modules that have been taken out of operation because they were incapable of any sulfur dioxide emission reduction or which would have suffered significant physical damage if they had remained in operation, and
   (3) Designing, constructing, and operating a spare flue gas desulfurization system module for an affected facility larger than 365 MW (1,250 million Btu/hr) heat input (approximately 125 MW electrical output capacity). The Administrator may at his discretion require the owner or operator within 60 days of notification to demonstrate spare module capability. To demonstrate this capability, the owner or operator must demonstrate compliance with the appropriate requirements under paragraph (a), (b), (d), (e), and (h) under 60 CFR §60.43a for any period of operation lasting from 24 hours to 30 days when:
      (i) Any one flue gas desulfurization module is not operated,
      (ii) The affected facility is operating at the maximum heat input rate,
      (iii) The fuel fired during the 24-hour to 30-day period is representative of the type and average sulfur content of fuel used over a typical 30-day period, and
      (iv) The owner or operator has given the Administrator at least 30 days notice of the date and period of time over which the demonstration will be performed.

F. The owner or operator shall submit the written reports required under NSPS Subparts A and Da to the Administrator semiannually for each six-month period. All semiannual reports shall be postmarked by the 30th day following the end of each six-month period.

G. The minimum sorbent feed rate of the Flue Gas Desulfurization System shall be 0.40 lbs of lime/lb of inlet SO_2 based on 90% available CaO in the lime, expressed as a three (3) hour average except for eight (8) hours per calendar month in which the three (3) hour average minimum sorbent feed rate may be less than 0.40 lbs of lime/lb of inlet SO_2.

H. The minimum ammonia feed rate of the Selective Catalytic Reduction (SCR) system shall be 0.43 lbs of urea per pound of inlet SCR NO_x, expressed as a thirty (30) day rolling average.

I. The minimum halogenated activated carbon injection rate of the Activated Carbon Injection (ACI) system shall be 1.2 pounds of halogenated activated carbon per million standard cubic feet ($MMft^3$ or MMCF) of exhaust gas, expressed as a thirty (30) day rolling average.

J. The owner or operator may, but is not required to, treat the coal burned in this unit with chemicals containing additives including a mineral composite of calcium silicate components and other calcium compounds containing iron and aluminum.

K. The following conditions (except Condition 4) are required on the haul roads at the facility (plant number 78-01-026) in order for the roads to meet the BACT emission rates:
   (1) Haul truck loads shall be enclosed or covered
   (2) The maximum silt content shall not exceed 2.8 g/m^2. See Condition 12 for testing requirements.
   (3) In order to protect the NAAQS, the maximum number of trucks associated with ash and FGD hauling (all units) shall not exceed 80 trucks per day.
   (4) For paved roads:
      (i) Fugitive emissions of paved haul roads shall be controlled to an effective control efficiency of 80% by either water flushing followed by sweeping or using a street sweeper that is certified to achieve a pick-up efficiency of 80%. The control and record keeping requirements described in Condition 15.Q. shall begin at the same time as the startup of Boiler 4. The control efficiency of 80% shall be achieved by either using a certified sweeper once per day or by water flushing followed by sweeping of the paved haul roads once per day. The water spray rate shall be a minimum of 0.23 gallons per square yard.
      (ii) If water flushing followed by sweeping cannot be accomplished because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35^0 F (1.7^0 C) or conditions due to weather, in combination with the application of the water, could create hazardous driving conditions, then the water flushing and sweeping shall be postponed and accomplished as soon after the scheduled date as the conditions preventing the application have abated.
      (iii) Water flushing and sweeping need not occur when a rain gage located at the site indicates that at least 0.2 inches of precipitation (water equivalent) has occurred within the preceding 24-hr time period or the paved road(s) will not be used on a given day.

14. Operating Limits (Continued)

(5) For unpaved roads:

(i) Fugitive emissions from unpaved haul roads shall be controlled by applying a chemical dust suppressant. Applications of the selected chemical dust suppressant and the record keeping requirements described in Condition 15.Q. shall begin at the same time as the startup of Boiler 4. A control efficiency of 95% shall be maintained on all haul roads. MidAmerican may elect to use any chemical dust suppressant that is capable of achieving the 95% control efficiency. In the event that the manufacturer or distributor of a chemical dust suppressant recommends different amounts of chemical dust suppressant or MidAmerican chooses to use a different chemical dust suppressant, MidAmerican shall notify DNR of the change in application rates and/or chemical dust suppressant and the manufacturer's/distributor's recommendations.

(ii) If the selected chemical dust suppressant cannot be applied because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35^0 F (1.7^0 C) or conditions due to weather, in combination with the application of the chemical dust suppressant**,** could create hazardous driving conditions, then the chemical dust suppressant application shall be postponed and applied as soon after the scheduled application date as the conditions preventing the application have abated.

L. The following conditions are required on the following volume source fugitive emissions at the facility (plant number 78-01-026) for this project in order for these sources of emissions to meet the BACT emission rates:

(1) Stacker conveyor:

(i) Fugitive emissions shall be controlled by applying a chemical dust suppressant. Applications of the selected chemical dust suppressant and the record keeping requirements described in Condition 15.R. shall begin at the same time as the startup of Boiler 4. A control efficiency of 95% shall be maintained. MidAmerican may elect to use any chemical dust suppressant that is capable of achieving the 95% control efficiency. In the event that the manufacturer or distributor of a chemical dust suppressant recommends different amounts of chemical dust suppressant or MidAmerican chooses to use a different chemical dust suppressant, MidAmerican shall notify DNR of the change in application rates and/or chemical dust suppressant and the manufacturer's/distributor's recommendations.

(ii) If the selected chemical dust suppressant cannot be applied because the ambient air temperature (as measured at the facility during operating hours) will be less than 35^0 F (1.7^0 C) or other conditions due to weather cause the chemical dust suppressant to not be applied then the chemical dust suppressant application shall be postponed and applied as soon after the scheduled application date as the conditions preventing the application have abated.

(iii) The application of chemical dust suppressant is not required when rail unloading directly from the train to the plant silos without first depositing to a pile.

(2) Transfer to active pile:

(i) Fugitive emissions shall be controlled by applying a chemical dust suppressant. Applications of the selected chemical dust suppressant and the record keeping requirements described in Condition 15.R. shall begin at the same time as the startup of Boiler 4. A control efficiency of 95% shall be maintained. MidAmerican may elect to use any chemical dust suppressant that is capable of achieving the 95% control efficiency. In the event that the manufacturer or distributor of a chemical dust suppressant recommends different amounts of chemical dust suppressant or MidAmerican chooses to use a different chemical dust suppressant, MidAmerican shall notify DNR of the change in application rates and/or chemical dust suppressant and the manufacturer's/distributor's recommendations.

(ii) If the selected chemical dust suppressant cannot be applied because the ambient air temperature (as measured at the facility during operating hours) will be less than 35^0 F (1.7^0 C) or other conditions due to weather cause the chemical dust suppressant to not be applied then the chemical dust suppressant application shall be postponed and applied as soon after the scheduled application date as the conditions preventing the application have abated.

14. Operating Limits (Continued)

(3) Bucket reclaim:
(i) Fugitive emissions shall be controlled by applying a chemical dust suppressant. Applications of the selected chemical dust suppressant and the record keeping requirements described in Condition 15.R. shall begin at the same time as the startup of Boiler 4. A control efficiency of 95% shall be maintained. MidAmerican may elect to use any chemical dust suppressant that is capable of achieving the 95% control efficiency. In the event that the manufacturer or distributor of a chemical dust suppressant recommends different amounts of chemical dust suppressant or MidAmerican chooses to use a different chemical dust suppressant, MidAmerican shall notify DNR of the change in application rates and/or chemical dust suppressant and the manufacturer's/distributor's recommendations.
(ii) If the selected chemical dust suppressant cannot be applied because the ambient air temperature (as measured at the facility during operating hours) will be less than 35^0 F (1.7^0 C) or other conditions due to weather cause the chemical dust suppressant to not be applied then the chemical dust suppressant application shall be postponed and applied as soon after the scheduled application date as the conditions preventing the application have abated.

(4) Rail unloading:
(i) Fugitive emissions shall be controlled by applying a chemical dust suppressant. Applications of the selected chemical dust suppressant and the record keeping requirements described in Condition 15.R. shall begin at the same time as the startup of Boiler 4. A control efficiency of 95% shall be maintained. MidAmerican may elect to use any chemical dust suppressant that is capable of achieving the 95% control efficiency. In the event that the manufacturer or distributor of a chemical dust suppressant recommends different amounts of chemical dust suppressant or MidAmerican chooses to use a different chemical dust suppressant, MidAmerican shall notify DNR of the change in application rates and/or chemical dust suppressant and the manufacturer's/distributor's recommendations.
(ii) If the selected chemical dust suppressant cannot be applied because the ambient air temperature (as measured at the facility during operating hours) will be less than 35^0 F (1.7^0 C) or other conditions due to weather cause the chemical dust suppressant to not be applied then the chemical dust suppressant application shall be postponed and applied as soon after the scheduled application date as the conditions preventing the application have abated.
(iii) The application of chemical dust suppressant is not required when rail unloading is done directly from the train to the plant silos without first depositing to a pile.

M. The following conditions are required on the following area source fugitive emissions at the facility (plant number 78-01-026) for this project in order for these sources to meet the BACT emission rate:
(1) Active coal pile:
(i) The size of the active coal pile shall not exceed 311,155 square feet.
(ii) Fugitive emissions shall be controlled by applying a chemical dust suppressant. Applications of the selected chemical dust suppressant and the record keeping requirements described in Condition 15.S. shall begin at the same time as the startup of Boiler 4. A control efficiency of 95% shall be maintained. MidAmerican may elect to use any chemical dust suppressant that is capable of achieving the required control efficiencies. In the event that the manufacturer or distributor of a chemical dust suppressant recommends different amounts of chemical dust suppressant or MidAmerican chooses to use a different chemical dust suppressant, MidAmerican shall notify DNR of the change in application rates and/or chemical dust suppressant and the manufacturer's/distributor's recommendations.
(iii) If the selected chemical dust suppressant cannot be applied because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35^0 F (1.7^0 C) or other conditions due to weather cause the chemical dust suppressant to not be applied then the chemical dust suppressant application shall be postponed and applied as soon after the scheduled application date as the conditions preventing the application have abated.

14. Operating Limits (Continued)

(2) Inactive coal storage pile:
  (i) The size of the inactive coal storage pile shall not exceed 1,196,459 square feet.
  (ii) Fugitive emissions shall be controlled by applying a chemical dust suppressant. Applications of the selected chemical dust suppressant and the record keeping requirements described in Condition 15.S. shall begin at the same time as the startup of Boiler 4. A control efficiency of 99% shall be maintained when the pile is inactive. A chemical dust suppressant shall be used to meet a control efficiency of 95% for maintenance of the inactive pile. MidAmerican may elect to use any chemical dust suppressant that is capable of achieving the required control efficiencies. In the event that the manufacturer or distributor of a chemical dust suppressant recommends different amounts of chemical dust suppressant or MidAmerican chooses to use a different chemical dust suppressant, MidAmerican shall notify DNR of the change in application rates and/or chemical dust suppressant and the manufacturer's/distributor's recommendations.
  (iii) If the selected chemical dust suppressant cannot be applied because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35^0 F (1.7^0 C) or other conditions due to weather cause the chemical dust suppressant to not be applied then the chemical dust suppressant application shall be postponed and applied as soon after the scheduled application date as the conditions preventing the application have abated.

(3) Rail unloading coal stockout pile:
  (i) The size of the active coal storage pile shall not exceed 28,224 square feet.
  (ii) Fugitive emissions shall be controlled by applying a chemical dust suppressant. Applications of the selected chemical dust suppressant and the record keeping requirements described in Condition 15.S. shall begin at the same time as the startup of Boiler 4. A control efficiency of 95% shall be maintained. MidAmerican may elect to use any chemical dust suppressant that is capable of achieving the 95% control efficiency. In the event that the manufacturer or distributor of a chemical dust suppressant recommends different amounts of chemical dust suppressant or MidAmerican chooses to use a different chemical dust suppressant, MidAmerican shall notify DNR of the change in application rates and/or chemical dust suppressant and the manufacturer's/distributor's recommendations.
  (iii) If the selected chemical dust suppressant cannot be applied because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35^0 F (1.7^0 C) or other conditions due to weather cause the chemical dust suppressant to not be applied then the chemical dust suppressant application shall be postponed and applied as soon after the scheduled application date as the conditions preventing the application have abated.

N. A bag leak detection system must be installed to meet the following criteria:
(1) At least one detector must be located in each compartment of the baghouse.
(2) The bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with the guidance provided in "Fabric Filter Bag Leak Detection Guidance," EPA-454/R-98-015, September 1997.
(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.
(4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.
(5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensors.
(6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.
(7) The system's instrumentation and alarm may be shared among detectors.
(8) The system's alarm shall sound no more than 5% of the operating time during a 6-month period.

14. Operating Limits (Continued)

O. Within sixty (60) days of Departmental approval of the last required test results from Condition 12 of this permit for acetaldehyde, benzene, isophorone, and toluene the owner or operator shall submit the following to the Department:
   (1) An analysis for acetaldehyde, benzene, isophorone, and toluene to establish new 112(g) case-by-case MACT limits for those pollutants. This analysis shall include:
      - A summary of each test.
      - The result of each individual run.
      - All outliers in the data set and the methodology used to establish outliers.
      - The average of all runs conducted with the outliers removed.
      - The standard deviation of all runs conducted with the outliers removed.
      - The upper bound 95% confidence level of all runs conducted with the outliers removed. The formula used shall be:

$$95\% = \text{avg} + t\frac{S}{\sqrt{n}}$$

where: avg = average of the test runs
S = standard deviation of the test runs
t = percentage point of the *t* distribution with n-1 degrees of freedom
n = number of test runs

   (2) An analysis showing the correlation (or lack thereof) between CO and the organic HAPs that were tested.
   (3) A request to establish the 112(g) case-by-case limits for organic HAP emissions based on the testing conducted and the required analysis.

P. The waste material collected by the fabric filter and stored in the FGD waste silo system shall be processed through a pug-mill during loadout to increase the material moisture content to a minimum of 20%. The owner or operator shall conduct daily testing of the moisture content of the FGD waste material. Water wagons shall be used to wet the waste material during disposal site grading activities. These requirements do not apply to waste material being sold for beneficial use.

Q. The owner or operator is allowed, but not required, to add an aqueous calcium bromide chemical and/or an aqueous calcium chloride chemical to the coal prior to combustion for added mercury (Hg) control.

R. This emission unit is subject to all applicable operating limits set forth in NSPS Subparts A (40 CFR §60.1 – 40 CFR §63.19) and Da (40 CFR §60.40Da – 40 CFR §60.52Da) not specifically listed in this permit.

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15. Operating Condition Monitoring

All records as required by this permit shall be kept on-site for a minimum of two (2) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The date and an analysis showing the sulfur content and heat input representative of the coal burned for that day.

B. Per 40 CFR §60.51Da(a), the performance test data from the initial performance test and from the performance evaluation of the continuous monitors (including the transmissometer) for NO_x, SO_2, and PM emissions shall be submitted to the Administrator.

C. Per 40 CFR §60.51Da(b), the following information for NO_x and SO_2 shall be reported to the Administrator for each twenty-four (24) hour period:
   (1) Calendar date,
   (2) The average sulfur dioxide and nitrogen oxide emission rates (ng/J or lb/million Btu) for each thirty (30) successive boiler operating days, ending with the last thirty (30) day period in the quarter; reasons for non-compliance with the emission standards; and, description of corrective actions taken.
   (3) Percent reduction of the potential combustion concentration of sulfur dioxide for each thirty (30) successive boiler operating days, ending with the last thirty (30) day period in the quarter; reasons for non-compliance with the standard; and, description of corrective actions taken.

15. Operating Condition Monitoring (Continued)

(4) Identification of the boiler operating days for which pollutant or diluent data have not been obtained by an approved method for at least eighteen (18) hours of operation of the facility; justification for not obtaining sufficient data; and description of corrective actions taken.
(5) Identification of the times when emissions data have been excluded from the calculation of average emission rates because of startup, shutdown, malfunction (NO_x only), emergency conditions (SO_2 only), or other reasons, and justification for excluding data for reasons other than startup, shutdown, malfunction, or emergency conditions.
(6) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.
(7) Identification of times when hourly averages have been obtained based on manual sampling methods.
(8) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.
(9) Description of any modifications to the continuous monitoring system which could affect the ability of the continuous monitoring system to comply with Performance Specifications 2 or 3:

D. Per 40 CFR §60.51Da(c), if the minimum quantity of emission data as required by 40 CFR §60.49Da is not obtained for any 30 successive boiler operating days, the following information obtained under the requirements of 40 CFR §60.48a(h) shall be reported to the Administrator for that thirty (30) day period:
(1) The number of hourly averages available for outlet emission rates (no) and inlet emission rates (n_i) as applicable.
(2) The standard deviation of hourly averages for outlet emission rates (so) and inlet emission rates (s_i) as applicable.
(3) The lower confidence limit for the mean outlet emission rate (E_o*) and the upper confidence limit for the mean inlet emission rate (E_i*) as applicable.
(4) The applicable potential combustion concentration.
(5) The ratio of the upper confidence limit for the mean outlet emission rate (E_o*) and the allowable emission rate (E_{std}) as applicable.

E. Per 40 CFR §60.51Da(d), if any standards under 40 CFR §60.43Da are exceeded during emergency conditions because of control system malfunction, the owner or operator of the affected facility shall submit a signed statement:
(1) Indicating if emergency conditions existed and requirements under § 60.48Da(d) were met during each period, and
(2) Listing the following information:
(i) Time periods the emergency condition existed;
(ii) Electrical output and demand on the owner or operator's electric utility system and the affected facility;
(iii) Amount of power purchased from interconnected neighboring utility companies during the emergency period;
(iv) Percent reduction in emissions achieved;
(v) Atmospheric emission rate (ng/J) of the pollutant discharged; and
(vi) Actions taken to correct control system malfunction

F. Per 40 CFR §60.51Da(e), if fuel pretreatment credit toward the sulfur dioxide emission standard under 40 CFR §60.43Da is claimed, the owner or operator of the affected facility shall submit a signed statement:
(1) Indicating what percentage cleaning credit was taken for the calendar quarter, and whether the credit was determined in accordance with the provisions of 40 CFR §60.50Da and Method 19 (appendix A); and
(2) Listing the quantity, heat content, and date each pretreated fuel shipment was received during the previous quarter; the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the previous quarter.

G. Per 40 CFR §60.51Da(f), any periods for which opacity, sulfur dioxide or nitrogen oxides emissions data are not available, the owner or operator of the affected facility shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

15. Operating Condition Monitoring (Continued)

H. Per 40 CFR §60.51Da(h), the owner or operator of the affected facility shall submit a signed statement indicating whether:
   (1) The required continuous monitoring system calibration, span, and drift checks or other periodic audits have or have not been performed as specified.
   (2) The data used to show compliance was or was not obtained in accordance with approved methods and procedures of this part and is representative of plant performance.
   (3) The minimum data requirements have or have not been met; or, the minimum data requirements have not been met for errors that were unavoidable.
   (4) Compliance with the standards has or has not been achieved during the reporting period.

I. Per 40 CFR §60.51Da(i), for the purposes of the reports required under 40 CFR §60.7, periods of excess emissions are defined as all 6-minute periods during which the average opacity exceeds the applicable opacity standards under 40 CFR §60.42Da(b). Opacity levels in excess of the applicable opacity standard and the date of such excesses are to be submitted to the Administrator each calendar quarter.

J. Per 40 CFR §60.51Da(j), owner or operator shall submit the written reports required under 40 CFR §60.51Da and 40 CFR 60, Subpart A to the Administrator semiannually for each six (6) month period. All semiannual reports shall be postmarked by the thirtieth day following the end of each six (6) month period

K. Per 40 CFR §60.51Da(k), the owner or operator of an affected facility may submit electronic quarterly reports for SO_2 and/or NO_x and/or opacity in lieu of submitting the written reports required under 40 CFR §60.51Da(b) and 40 CFR §60.51Da(i). The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative form.

L. This emission unit is subject to all applicable recordkeeping and reporting requirements set forth in NSPS Subparts A (40 CFR §60.1 – 40 CFR §63.19) and Da (40 CFR §60.40Da – 40 CFR §60.52Da) not specifically listed in this permit

M. The sorbent feed rate of the Flue Gas Desulfurization System (in lb/lb) expressed as a three (3) hour rolling average.

N. The urea feed rate of the SCR system (in lb/lb) expressed as a thirty (30) day rolling average.

O. The activated carbon feed rate of the ACI system (in $lb/MMft^3$) expressed as a thirty (30) day rolling average.

P. The following records must be maintained from the bag leak detection system:
   (1) The date, time and duration of each system alarm.
   (2) The time corrective action was initiated and completed.
   (3) A brief description of the cause of the alarm and the corrective action.
   (4) A record of the percent of operating time during each 6-month period that the alarm sounds. In calculating the operating time percentage,
      (i) if an inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted.
      (ii) if corrective action is required, each alarm shall be counted as a minimum of one (1) hour.
      (iii) if it takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken to initiate corrective action.

Q. A log showing the following for haul roads:
   (1) The date and number of trucks associated with Units 1, 2, 3 and 4.
   (2) Paved roads:
      (i) Records of either the use of a certified sweeper or the applications shall be maintained and shall include:
         - The dates of each application or use of certified sweeper,
         - The amount of water applied (if applicable),
         - The areas treated or swept by certified sweeper, and
         - The operator's initials.
      (ii) If water is to be used and is not applied when scheduled then the records should so indicate and provide and an explanation.

15. Operating Condition Monitoring (Continued)

(3) Unpaved roads:
(i) Records of the applications shall be maintained and shall include:
- The dates of each application,
- The chemical dust suppressant used,
- The application intensity (gal/yd^2),
- Dilution ratio,
- The operator's initials, and
- Documentation of road and weather conditions, if necessary.

(ii) If the selected chemical dust suppressant is not applied as planned, then the records should so indicate and provide an explanation.

R. A log showing the following for the volume sources associated with this project:
(1) Stacker conveyor:
(i) Records of the applications shall be maintained and shall include:
- The dates of each application,
- The chemical dust suppressant used,
- The application intensity (gal/yd^2),
- Dilution ratio,
- The operator's initials, and
- Documentation of weather conditions, if necessary.

(ii) If the selected chemical dust suppressant is not applied as planned, then the records should so indicate and provide an explanation.
(2) Transfer to active pile:
(i) Records of the applications shall be maintained and shall include:
- The dates of each application,
- The chemical dust suppressant used,
- The application intensity (gal/yd^2),
- Dilution ratio,
- The operator's initials, and
- Documentation of weather conditions, if necessary.

(ii) If the selected chemical dust suppressant is not applied as planned, then the records should so indicate and provide an explanation.
(3) Bucket reclaim:
(i) Records of the applications shall be maintained and shall include:
- The dates of each application,
- The chemical dust suppressant used,
- The application intensity (gal/yd^2),
- Dilution ratio,
- The operator's initials, and
- Documentation of weather conditions, if necessary.

(ii) If the selected chemical dust suppressant is not applied as planned, then the records should so indicate and provide an explanation
(4) Rail unloading:
(i) Records of the applications shall be maintained and shall include:
- The dates of each application,
- The chemical dust suppressant used,
- The application intensity (gal/yd^2),
- Dilution ratio,
- The operator's initials, and
- Documentation of weather conditions, if necessary.

(ii) If the selected chemical dust suppressant is not applied as planned, then the records should so indicate and provide an explanation

15. Operating Condition Monitoring (Continued)

S. A log showing the following for the area sources in this project:
   (1) Active coal pile:
      (i) The date and size of the pile.
      (ii) Records of the applications shall be maintained and shall include:
         - The dates of each application,
         - The chemical dust suppressant used,
         - The application intensity (gal/yd^2),
         - Dilution ratio,
         - The operator's initials, and
         - Documentation of weather conditions, if necessary.
      (iii) If the selected chemical dust suppressant is not applied as planned, then the records should so indicate and provide an explanation.
   (2) Inactive storage pile:
      (i) The date and size of the pile.
      (ii) Records of the applications shall be maintained and shall include:
         - The dates of each application,
         - The chemical dust suppressant used,
         - The application intensity (gal/yd^2),
         - Dilution ratio,
         - The operator's initials, and
         - Documentation of weather conditions, if necessary.
      (iii) If the selected chemical dust suppressant is not applied as planned, then the records should so indicate and provide an explanation.
   (3) Rail unloading coal stockout pile:
      (i) The date and size of the pile.
      (ii) Records of the applications shall be maintained and shall include:
         - The dates of each application,
         - The chemical dust suppressant used,
         - The application intensity (gal/yd^2),
         - Dilution ratio,
         - The operator's initials, and
         - Documentation of weather conditions, if necessary.
      (iii) If the selected chemical dust suppressant is not applied as planned, then the records should so indicate and provide an explanation.

T. The results of all FGD waste material moisture content tests.

U. The date and the average hourly rate of aqueous calcium bromide and/or calcium chloride that is added to the coal.

16. Continuous Emission Monitoring

The following continuous emission monitoring requirements apply to this emission point and its associated emission unit(s) and control equipment:

A. The following monitoring systems are required:

- *Opacity:*

  In accordance with 40 CFR §60.49Da(a), the owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system (CEMS) and record the output of the system, for measuring the opacity of emissions discharged to the atmosphere.

  If opacity interference due to water droplets exists in the stack (for example, from the use of an FGD system), the opacity is monitored upstream of the interference (at the inlet to the FGD system). If opacity interference is experienced at all locations (both at the inlet and outlet of the sulfur dioxide control system), alternate parameters indicative of the particulate matter control system's performance are monitored (subject to the approval of the Administrator).

  The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 1 (PS1).

  Per 40 CFR §60.48Da(p), the owner or operator may elect to install, certify, maintain and operate a CEMS measuring PM emissions discharged to the atmosphere and record the output of the system as specified in 40 CFR §60.48Da(p)(1) through 40 CFR §60.48Da(p)(8). If the owner or operator elects to use the PM CEMS in lieu of an opacity monitor to demonstrate compliance with the NSPS, the opacity monitor is still required as the monitor shall also be used to demonstrate compliance with the BACT emission standards in this permit.

- *SO_2:*

  In accordance with 40 CFR §60.49Da(b), the owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system (CEMS) and record the output of the system, for measuring sulfur dioxide (SO_2) emissions, except where natural gas is the only fuel combusted, as follows:

  (1) Install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring sulfur dioxide (SO_2) emissions discharged to the atmosphere or
  (2) If the owner or operator has installed and certified a SO_2 CEMS according to the requirements of 40 CFR §75.21 and 40 CFR 75, Appendix B, that CEMS may be used to meet the SO_2 monitoring requirements provided:
    (i) A CO_2 or O_2 continuous monitoring system is installed, calibrated, maintained and operated at the same location in accordance with 40 CFR §60.49Da(d); and
    (ii) For sources subject to an SO_2 emission limit in lb/MMBTU under §60.43Da:
      (a) When relative accuracy testing is conducted, the SO_2 concentration data and the CO_2 (or O_2) data are collected simultaneously; and
      (b) In addition to meeting the applicable SO_2 and CO_2 (or O_2) relative accuracy specifications in Figure 2 of 40 CFR 75 Appendix B, the relative accuracy (RA) standard in 40 CFR 60, Appendix B, Performance Specification 2 (PS2), Section 13.2 is met when the RA is calculated on a lb/MMBTU basis and
    (iii) The reporting requirements of 40 CFR §60.51Da are met. The SO_2 and CO_2 (or O_2) data reported to meet the requirements of 40 CFR §60.51Da shall not include substitute data values derived from the missing data procedures in 40 CFR 75, Subpart D, nor shall the SO_2 data have been bias adjusted according to the procedures of 40 CFR 75.

16. Continuous Emission Monitoring (Continued)

The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 2 (PS2) and Performance Specification 6 (PS6) requirements. The specifications of 40 CFR 60, Appendix F (Quality Assurance/Quality Control) shall apply. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

This monitor shall also be used to demonstrate compliance with the non-NSPS emission standards in this permit.

- *NO_x:*

In accordance with 40 CFR §60.49Da(c), the owner or operator shall either:

(1) Install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring nitrogen oxides (NO_x) emissions discharged to the atmosphere; or
(2) If the owner or operator has installed a NO_x emission rate CEMS to meet the requirements of 40 CFR 75 and is continuing to meet the ongoing requirements of 40 CFR 75, that CEMS may be used to meet the requirements of 40 CFR §60.49Da(c), except that the owner or operator shall also meet the requirements of 40 CFR §60.51Da. Data reported to meet the requirements of 40 CFR §60.51Da shall not include data substituted using the missing data procedures in 40 CFR 75, Subpart D, nor shall the data have been bias adjusted according to the procedures of 40 CFR 75.

The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 2 (PS2) and Performance Specification 6 (PS6) requirements. The specifications of 40 CFR Appendix F (Quality Assurance/Quality Control) shall apply. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

This monitor shall also be used to demonstrate compliance with the non-NSPS emission standards in this permit.

- *O_2 or CO_2:*

In accordance with 40 CFR §60.49Da(d), the owner or operator shall install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring the oxygen (O_2) or carbon dioxide (CO_2) content of the flue gases at each location where SO_2 or NO_x emissions are monitored.

- *CO:*

Compliance with the carbon monoxide (CO) emission limits of this permit shall be continuously demonstrated by the owner or operator through the use of a CEMS. Therefore, the owner or operator shall install, calibrate, maintain, and operate a CEMS for measuring CO emissions discharged to the atmosphere and record the output of the system.

The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 4A (PS4A) and Performance Specification 6 (PS6) requirements. The specifications of 40 CFR 60, Appendix F (Quality Assurance/Quality Control) shall apply. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

16. Continuous Emission Monitoring (Continued)

- *Hg:*

  Within one hundred twenty (120) days after final EPA approval of a mercury CEMS certification process the owner or operator shall continuously demonstrate compliance with the mercury (Hg) emission limits in this permit through the use of a combination of CEMS and stack testing as detailed in Condition 12, footnote 6 of the first table. Therefore, the owner or operator shall install, calibrate, maintain, and operate a CEMS for measuring Hg emissions discharged to the atmosphere and record the output of the system. Prior to final approval of the mercury CEMS certification process the owner or operator shall conduct quarterly Hg testing per the requirements of Condition 12.

  The system shall be designed to meet the final EPA approved mercury monitoring specification. The specifications of 40 CFR 60, Appendix F (Quality Assurance/Quality Control) shall apply. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

- *Wattmeter:*

  Per 40 CFR §60.49Da(k)(1), the owner or operator shall install, calibrate, maintain, and operate a wattmeter; measure gross electrical output in megawatt-hour on a continuous basis; and record the output of the monitor for demonstrating compliance with the output-based standard under 40 CFR §60.44Da(d)(1).

- *Flowmeter:*

  Per 40 CFR §60.49Da(l), the owner or operator demonstrating compliance with the output-based standard under 40 CFR §60.42Da, 40 CFR §60.43Da, 40 CFR §60.44Da, or 40 CFR §60.45Da shall install, certify, operate, and maintain a continuous flow monitoring system meeting the requirements of 40 CFR 60, Appendix B, Performance Specification 6 and 40 CFR 60, Appendix F, Procedure 1. In addition, the owner or operator shall record the output of the system, for measuring the volumetric flow of exhaust gases discharged to the atmosphere or

  Alternatively, per 40 CFR §60.49Da(m), data from a continuous flow monitoring system certified according to the requirements of 40 CFR §75.20(c) and 40 CFR 75, Appendix A, and continuing to meet the applicable quality control and quality assurance requirements of 40 CFR §75.21 and 40 CFR 75, Appendix B, may be used.

  Flow rate data reported to meet the requirements of 40 CFR §60.51Da shall not include substitute data values derived from the missing data procedures of 40 CFR 75.

B. In accordance with 40 CFR §60.49Da(e), the CEMS required in Condition 16.A. for SO_2, NO_x, and either O_2 or CO_2 shall be operated and the data recorded during all periods of operation including periods of startup, shutdown, malfunction or emergency conditions, except for CEMS breakdowns, repairs, calibration checks, and zero and span adjustments.

16. Continuous Emission Monitoring (Continued)

C. In accordance with 40 CFR §60.49Da(f)(1), the owner or operator shall obtain emission data for at least eighteen (18) hours in at least twenty-two (22) out of thirty (30) successive boiler operating days. If this minimum data cannot be met with a CEMS, the owner or operator shall supplement the emission data with other monitoring systems approved by the Administrator or the following reference methods and procedures:

(1) 40 CFR 60, Method 6 shall be used to determine the SO_2 concentration at the same location as the SO_2 monitor. Samples shall be taken at 60-minute intervals. The sampling time and sample volume for each sample shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Each sample represents a 1-hour average.
(2) 40 CFR 60, Method 7 shall be used to determine the NO_x concentration at the same location as the NO_x monitor. Samples shall be taken at 30-minute intervals. The arithmetic average of two consecutive samples represents a 1-hour average.
(3) The emission rate correction factor, integrated bag sampling and analysis procedure of 40 CFR 60, Appendix A, Method 3B shall be used to determine the O_2 or CO_2 concentration at the same location as the O_2 or CO_2 monitor. Samples shall be taken for at least 30 minutes in each hour. Each sample represents a 1-hour average.
(4) The procedures in 40 CFR 60, Appendix A, Method 19 shall be used to compute each 1-hour average concentration in ng/J (1b/million Btu) heat input.

Acceptable alternative methods and procedures are given in Condition 16.F.

D. The 1-hour averages required under 40 CFR §60.13(h) are expressed in ng/J (lb/million Btu) heat input and used to calculate the average emission rates under 40 CFR §60.48Da. The 1-hour averages are calculated using the data points required under 40 CFR §60.13(h)(2).

E. Per 40 CFR §60.49Da(i), the owner or operator shall use the following methods and procedures to conduct monitoring system performance evaluations under 40 CFR §60.13(c) and calibration checks under 40 CFR §60.13(d):

(1) Methods 3B, 6, and 7 shall be used to determine O_2, SO_2, and NO_x concentrations, respectively.
(2) SO_2 or NO_x (NO), as applicable, shall be used for preparing the calibration gas mixtures (in N_2, as applicable) under 40 CFR 60, Appendix B, Performance Specification 2.
(3) The span value for a continuous monitoring system for measuring opacity is between 60 and 80 percent.
(4) The span value for a continuous monitoring system measuring NO_x is either:
  (a) 1,000 ppm or
  (b) The owner or operator may elect to use the NO_x span values determined according to Section 2.1.2 in 40 CFR 75, Appendix A.
(5) The span value of the sulfur dioxide continuous monitoring system is either:
  (a) 125 percent of the maximum estimated hourly potential emissions of the fuel fired at the inlet to the sulfur dioxide control device and 50 percent of maximum estimated hourly potential emissions of the fuel fired at the outlet of the sulfur dioxide control device or
  (b) The owner or operator may elect to use the SO_2 span values determined according to Section 2.1.1 in 40 CFR 75, Appendix A.

Acceptable alternative methods and procedures are given in Condition 16.F.

16. Continuous Emission Monitoring (Continued)

F. The owner or operator may use the following as alternatives to the reference methods and procedures specified:

(1) For 40 CFR 60, Appendix A: 40 CFR 60, Appendix A, Method 6, Method 6A or Method 6B (whenever 40 CFR 60, Appendix A, Method 6 and Method 3 or Method 3B data are used) or 40 CFR 60, Appendix A, Method 6C may be used. Each Method 6B sample obtained over 24 hours represents 24 1-hour averages. If either 40 CFR 60, Appendix A, Method 6A or 40 CFR 60, Appendix A, Method 6B is used under 40 CFR §60.49Da(i), the conditions under 40 CFR §60.49Da(d)(1) apply. These conditions do not apply under 40 CFR §60.49Da(h).
(2) For 40 CFR 60, Appendix A: 40 CFR 60, Appendix A, Method 7, Method 7A, 7C, 7D, or 7E may be used. If Method 7C, 7D, or 7E is used, the sampling time for each run shall be 1 hour.
(3) For 40 CFR 60, Appendix A, Method 3: 40 CFR 60, Appendix A, Method 3A or 3B may be used if the sampling time is 1 hour.
(4) For 40 CFR 60, Appendix A, Method 3B: 40 CFR 60, Appendix A, Method 3A may be used.

G. The following data requirements shall apply to all CEMS for non-NSPS emission standards in this permit:

(1) The CEMS required by this permit shall be operated and data recorded during all periods of operation of the emission unit except for CEM breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
(2) The 1-hour average PM, Hg, SO_2, NO_x, and CO emission rates measured by the CEMS required by this permit shall be used to calculate compliance with the emission standards of this permit. At least 2 data points must be used to calculate each 1-hour average.
(3) For each hour of missing emission data (Hg, NO_x, SO_2, or CO), the owner or operator shall substitute data by:
(i) If the monitor data availability is equal to or greater than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
(a) For the missing data period less than or equal to 24 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
(b) For a missing data period greater than 24 hours, substitute the greater of:
- The 90^{th} percentile hourly concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
- The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

(ii) If the monitor data availability is at least 90.0% but less than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
(a) For a missing data period of less than or equal to 8 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
(b) For the missing data period of more than 8 hours, substitute the greater of:
- The 95^{th} percentile hourly pollutant concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
- The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

(iii) If the monitor data availability is less than 90.0%, the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.

H. If requested by the Department, the owner/operator shall coordinate the quarterly cylinder gas audits with the Department to afford the Department the opportunity to observe these audits. The relative accuracy test audits shall be coordinated with the Department.

17. Description of Terms and Acronyms

acfm	Actual cubic feet per minute
Applicant	The owner, company official or authorized agent
CFR	Code of Federal Regulations
Department	Iowa Department of Natural Resources
DNR	Iowa Department of Natural Resources
gr/dscf	Grains per dry standard cubic foot
HAP	Hazardous Air Pollutant(s)
IAC	Iowa Administrative Code
Lb/bhp-hr	Pounds per brake horsepower hour
Lb/MWh (gross)	Pounds per gross megawatt hour
MMBTU	One million British thermal units
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NO_X	Nitrogen Oxides
Owner	The owner or authorized representative
Permit	This document including permit conditions and all submitted application materials
PM_{10}	Particulate Matter equal to or less than 10 microns in aerodynamic diameter
scfm	Standard cubic feet per minute
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
VOC	Volatile Organic Compound

END OF PERMIT CONDITIONS