Attachment D. Monsanto Air Construction Permits

Iowa Department of Natural Resources
Air Quality Construction Permit

Permit Holder

Firm: Monsanto Company

Contact:

Mark Mathias
Environmental Engineer

(563) 262-7140

2500 Wiggins Road
Muscatine, IA 52761

Responsible Party:

Shawn Schrader
Plant Manager

2500 Wiggins Road
Muscatine, IA 52761

Permitted Equipment

Emission Unit(s): Boiler #8, Coal Firing (EU 3819-1-115-1)
Waste Treatment Sludge (EU 3819-1-115-2),
Seed Corn (EU 3819-1-115-3)
Maximum Heat Input: 150 MMBtu per hour

Control Equipment: Fabric Filter (CE 3819-1-115)

Emission Point: EP-195

Equipment Location: 2500 Wiggins Road
Muscatine, Iowa 52761

Plant Number: 70-01-008

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.

Permit No.	Project No.	Description	Date	Stack Testing
82-A-092-P11	15-033	Establish 1-hr SO2 Limit	05/13/15	Yes

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

CPFP|7001008|051315|15033|82A092P11

PZ

PERMIT CONDITIONS

1. Departmental Review

This permit is issued based on information submitted by the applicant. Any misinformation, false statements or misrepresentations by the applicant or by the applicant's representative(s) 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 – 35; and 40 Code of Federal Regulations (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 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.

2. Owner and Operator Responsibility

This 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. The permit holder, owner, and operator of the facility shall assure that the installation of the equipment listed in this permit conforms to the design in the application (i.e. type, maximum rated capacity, etc.). No person shall construct, install, reconstruct or alter this emission unit(s), control equipment, or emission point without the required amended 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 assuring that the installation, operation, and maintenance of the equipment listed in this permit is in compliance with the provisions of this permit and all other applicable requirements.

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"*.

3. 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 Department shall be notified in writing at least seven (7) days prior to transferring to the new location unless the equipment will be located in an area which is classified as nonattainment for the National Ambient Air Quality Standards (NAAQS) or is a maintenance area for the NAAQS in which case notification shall be given fourteen (14) days prior to the relocation of equipment[1] (See Permit Condition 8.A.2). The owner or operator will be notified at least ten (10) days prior to the scheduled relocation if the relocation will cause a violation of the (NAAQS). In such case, a supplemental permit shall be required prior to the initiation of construction of additional control equipment or modifications to equipment needed to meet the standards.

[1] A list of nonattainment areas and maintenance areas for the NAAQS can be obtained from the Department.

4. Construction

A. General Requirements
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.

4. Construction (Continued)

In permit amendments, all provisions of the original permit remain in full force and effect unless they are

specifically changed by the permit amendment. If a proposed project is not timely completed, the owner or operator shall seek a permit amendment in order to revert back to the most recent previous version of the permit. The previous, unchanged permit provisions are included in the amendment for your convenience only and are unappealable.

This permit or amendment shall become void if any one of the following conditions occurs:
(1) the construction or implementation of the proposed project, as it affects the emission point permitted herein, is not initiated within eighteen (18) months after the permit issuance date; or
(2) the construction or implementation of the proposed project, as it affects the emission point permitted herein, is not completed within thirty-six (36) months after the permit issuance date; or
(3) the construction or implementation of the proposed project, as it affects the emission point permitted herein, is not completed within a time period specified elsewhere in this permit.

B. Changes to Plans and Specifications

The owner or operator shall amend this permit or amendment prior to startup of the equipment if:
(1) Any changes are made to the final plans and specifications submitted for the proposed project; or
(2) This permit becomes void.

Changes to the final plans and specification shall include changes to plans and specifications for permitted equipment and control equipment and the specified operation thereof.

C. Amended Permits

The owner or operator may continue to act under the provisions of the previous permit for the affected emission unit(s) and emission point, together with any previous amendment to the permit, until one of the following conditions occurs:
(1) The proposed project authorized by this amendment is completed as it affects the emission unit(s) and emission point permitted herein; or
(2) This current amendment becomes void.

5. 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 35.

6. Excess Emissions

Per 567 IAC 24.1(1), 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 (1) six-minute period per one (1) 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 by telephone, electronic mail or in person to the appropriate field office within eight (8) hours of, or at the start of, the first working day following the onset of the incident (See Permit Condition 8.B.1). A written report of an incident of excess emissions shall be submitted as a follow-up to all required initial reports within seven (7) days of the onset of the upset condition (See Permit Condition 8.B.2).

7. Permit Violations

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

8. Notification, Reporting, and Recordkeeping

A. The owner or operator shall furnish the Department the following written notifications:
   (1) Per 567 IAC 22.3(3)"b":
      (a) The date construction, installation, or alteration is initiated postmarked within thirty (30) days following initiation of construction, installation, or alteration;
      (b) The actual date of startup, postmarked within fifteen (15) days following the start of operation;
   (2) Per 567 IAC 22.3(3)"f", when portable equipment for which a permit has been issued is to be transferred from one location to another, the Department shall be notified:
      (a) at least fourteen (14) days before equipment relocation if the equipment will be located in a nonattainment area for the National Ambient Air Quality Standards (NAAQS) or a maintenance area for the NAAQS;
      (b) at least seven (7) days before equipment relocation.
   (3) Per 567 IAC 22.3(8), a new owner shall notify the Department of the transfer of equipment ownership within thirty (30) days of the occurrence. The notification shall be mailed to:

      Air Quality Bureau
      Iowa Department of Natural Resources
      7900 Hickman Road, Suite 1
      Windsor Heights, IA 50324

      and include the following information:
      - The date of ownership change,
      - The name, address, and telephone number of the responsible official, the contact person, and the owner of the equipment both before and after the ownership change; and
      - The construction permit number(s) of the equipment changing ownership.
   (4) Unless specified per a federal regulation, notification of each compliance test required by Permit Condition 12 shall be done not less than thirty (30) days before the required test or performance evaluation of a continuous emission monitor [567 IAC 25.1(7)]. The notification shall include:
      - the time,
      - the place,
      - the name of the person who will conduct the tests,
      - and other information as required by the Department;

      If the owner or operator does not provide timely notice to the Department, the Department shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with the applicable rules or permit conditions. Upon written request, the Department may allow a notification period of less than thirty (30) days.

B. The owner or operator shall furnish the Department with the following reports:
   (1) Per 567 IAC 24.1(2), an incident of excess emissions as defined in 567 IAC 20.2 shall be reported within eight (8) hours or at the start of the first working day following the onset of the incident. The report may be made by electronic mail, in person or by telephone.
   (2) Per 567 IAC 24.1(3), a written report of an incident of excess emissions as defined in 567 IAC 20.2 shall be submitted as a follow-up to all required initial reports to the Department within seven (7) days of the onset of the upset condition.
   (3) Operation of this emission unit(s) or control equipment outside of those operating parameters specified in Permit Condition 14 in accordance to the schedule set forth in 567 IAC 24.1.
   (4) Per 567 IAC 25.1(6), the owner or operator of any facility required to install a continuous monitoring system or systems shall provide quarterly reports to the Director, no later than thirty (30) calendar days following the end of the calendar quarter, on forms provided by the Director.

8. Notification, Reporting, and Recordkeeping (Continued)

(5) Per 567 IAC 25.1(7), 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;

C. 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 unless otherwise required by another applicable law (i.e. NSPS, NESHAP, etc.)

D. The owner or operator 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) 725-9549
Fax: (515) 725-9501

E. The owner or operator 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) 725-9545
Fax: (515) 725-9502

F. The owner or operator 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) 725-9550 Fax: (515) 725-9502	DNR Field Office 6 1023 West Madison Washington, IA 52353 Telephone: (319) 653-2135 Fax: (319) 653-2856

9. Appeal Rights

All conditions within an original permit may be appealed, subject to the appeal rights set forth in 561 IAC Chapter 7. Amended conditions within a permit amendment may be appealed, subject to the appeal rights set forth in 561 IAC Chapter 7. In permit amendments, all provisions of the original permit remain in full force and effect unless they are specifically changed by the permit amendment. The previous, unchanged permit provisions are included in the amendment for your convenience only and are unappealable.

Per 561 IAC 7.4(1), the owner or operator shall file any written notice of appeal within thirty (30) days of receipt of the issued permit. The written notice of appeal shall be filed with the Director of the Department with a copy to the Legal Services Bureau Chief at the following addresses:

Director Iowa Department of Natural Resources 502 East 9th Street Des Moines, IA 50319	Bureau Chief Legal Services Bureau Iowa Department of Natural Resources 502 East 9th Street Des Moines, IA 50319

10. Emission Limits

The following emission limits shall not be exceeded:

10a. BACT Emission Limits

Pollutant	lb/hr	tons/yr	Additional Limits	Reference (567 IAC)
Particulate Matter (PM)[3]	NA	NA	0.03 lb/MMBtu[1]	BACT
Opacity	NA	NA	20%[4]	BACT[2]
Sulfur Dioxide (SO_2)	NA	NA	1.95 lbs/MMBtu[5]	BACT[2]
Nitrogen Oxides (NO_X)	NA	NA	0.60 lbs/MMBtu[6]	BACT[2]

[1] Standard is expressed as the average of three (3) runs.
[2] Compliance with the emission standards shall be demonstrated through the use of Continuous Emission Monitoring Systems (CEMS).
[3] Filterable only (front half).
[4] Standard is a 6 minute average.
[5] Standards is a 3 hour rolling average basis.
[6] Standard is a 30 day rolling average basis.

10b. Other Emission Limits

Pollutant	lb/hr[1]	tons/yr	Additional Limits	Reference (567 IAC)
Particulate Matter (PM) – Federal	NA	NA	NA	NA
Particulate Matter (PM)	7.5[2]	NA	NA	NA
PM_{10}	7.5	NA	NA	NAAQS
$PM_{2.5}$	0.75[3]	NA	NA	NAAQS
Opacity	NA	NA	NA	NA
Sulfur Dioxide (SO_2)	273.0[4]	NA	NA	RACT
Nitrogen Oxides (NO_X)	90	NA	NA	NAAQS
Volatile Organic Compounds	NA	NA	NA	NA
Carbon Monoxide (CO)	NA	NA	NA	NA
Lead (Pb)	NA	NA	NA	NA
Mercury (Hg)	NA	NA	3200 grams/24 hours[5]	23.1(3)"d"
(Single HAP)	NA	NA	NA	NA
(Total HAP)	NA	NA	NA	NA

[1] Standard is expressed as the average of three (3) runs.
[2] Limit established in Project 95-358.
[3] Limit requested by facility to demonstrate attainment with the 24-hour and annual PM2.5 NAAQS.
[4] The SO_2 limit is established to address the nonattainment designation for a portion of Muscatine County published in the Federal Register (78 FR 47191) on August 5, 2013. The nonattainment designation is for the 1-hour SO_2 primary national ambient air quality standard promulgated by EPA in 2010 (75 FR 35519, June 22, 2010).
[5] Limit applies on the days when wastewater treatment plant sludge is burned in the boiler. Compliance may be demonstrated by an analysis of the mercury content of the sludge in accordance with 40 CFR 61.54.

11. Emission Point Characteristics

This emission point shall conform to the specifications listed below:

Parameter	Value
Stack Height, (ft, from the ground)	150 Feet
Discharge Style	Vertical Unobstructed Discharge
Stack Opening (inches, diameter)	76 inches Diameter
Exhaust Temperature (°F)	350 °F
Exhaust Flowrate (scfm)	38,700 scfm

The temperature and flowrate 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 either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

12. Compliance Demonstration(s)

Pollutant	Compliance Demonstration	Compliance Methodology	Frequency
PM – Federal	No	Performance Testing	NA
PM – State	Yes	Performance Testing	See Note 1
PM_{10}	Yes	Performance Testing	See Note 1
$PM_{2.5}$	No	Performance Testing	NA
Opacity	Yes	Continuous Emission Monitoring System (CEM)	Continuous
SO_2 BACT (condition 10a)	Yes	Continuous Emission Monitoring System (CEM)	Continuous
SO_2 (condition 10b)	Yes	Performance Testing	One-Time
NO_x	Yes	Continuous Emission Monitoring System (CEM)	Continuous
VOC	Yes	Performance Testing	See Note 1
CO	Yes	Performance Testing	See Note 1
Pb	No	Performance Testing	NA
Hg	Yes	As specified in 40 CFR 61.54 & 40 CFR 61.55	As specified in 40 CFR 61.54& 55

1. Tests shall be run on these pollutants for every increase of 3% or greater in the seed corn feed rate (by weight) over previous tested maximum seed corn feed rate.

If an initial compliance demonstration specified above is testing, the owner or the owner's authorized agent shall verify compliance with the SO2 emission limitation contained in Permit Condition 10b within 6-months from the date of permit issuance.

If subsequent testing is specified above, the owner or the owner's authorized agent shall verify compliance with the emission limitations contained in Permit Condition 10 according to the frequency and timeframe noted above.

If testing is required, the owner or the owner's authorized agent 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.

12. Compliance Demonstration(s) (continued)

Pollutant	Test Run Time	Test Method
PM – Federal	1 hour	40 CFR 60, Appendix A, Method 5
PM – State	1 hour	40 CFR 60, Appendix A, Method 5 40 CFR 51 Appendix M Method 202
PM_{10}	1 hour	40 CFR 51, Appendix M, 201A with 202
$PM_{2.5}$	7 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 18 or 40 CFR 60, Appendix A, Method 320
CO	1 hour	40 CFR 60, Appendix A, Method 10
Pb	1 hour	40 CFR 60, Appendix A, Method 12
HAP	1 hour	40 CFR 60, Appendix A, Method 18

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.

Per 567 IAC 25.1(7)"a", at the Department's request, a pretest meeting shall be held not later than fifteen (15) days before the owner or operator conducts the compliance demonstration. A testing protocol shall be submitted to the Department no later than fifteen (15) days before the owner or operator conducts the compliance demonstration. 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. A representative of the Department shall be allowed to witness the test(s). The Department shall reserve the right to impose additional, different, or more detailed testing requirements.

The owner shall be responsible for the installation and maintenance of test ports. The unit(s) being sampled shall 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.

13. New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

This emission unit is subject to the requirements of 40 CFR Part 61 – National Emission Standard for Mercury.

This emission unit is not currently subject to any of the NSPS standards, as it was constructed prior to the Subpart Db applicability date of June 19, 1984, and not subsequently modified as to increase hourly emissions of NO_x, SO_x, or PM.

For information only: Boiler #8 is of the source category affected by the following federal regulations: New Source Performance Standards: Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units [40 CFR Part 60 Subpart DDDD], as existing emission unit.

14. Operating Limits

Operating limits for this emission unit shall be:

A. At all times, including periods of startup, shutdown, and malfunction, the owner/operator shall, to the extent practicable, maintain and operate the unit in a manner consistent with good air pollution control practice for minimizing emissions.
B. Sludge material from the Monsanto Company wastewater treatment plant may be burned in the B-8 Boiler, except during period of startup, at which time only coal may be burned. The composition of coal and sludge shall be as described by Monsanto Company letter dated November 8, 1985 and December 11, 1985.
C. Coal, seed corn, and sludge may be combusted in the B-8 boiler.
D. No more than 10,000 lbs/day of the sludge material, on a dry solids basis shall be burned in the B-8 Boiler.
E. The maximum seed corn feed rate (by weight per day) shall be limited to the lesser of either 35% seed corn feed rate (percent of total fuel weight combusted, on a daily basis) or the maximum seed corn feed rate that resulted in no increase in emissions for each criteria pollutant (compared to conditions when not combusting seed corn), or else as allowed in Condition 12 testing requirements. This shall be determined by following the procedures in 40 CFR, Appendix C to Part 60, Determination of Emission Rate Change.
F. Bypassing the boiler's particulate matter emission control device is prohibited except as provided as follows:
    a. Bypassing during periods of startup (as defined in 40 CFR 60.2 of the federal NSPS regulations) shall be limited to a total of twenty hours per calendar year. During each startup, the owner or operator shall proceed through the startup phase as expeditiously as possible taking into account safety-related, mechanical, and/or operational considerations. For each said bypass, the owner/operator shall record the date, time and duration of the bypass.

    Bypassing during period other than periods of startup is prohibited and shall be considered a violation of this condition unless the owner/operator subsequently demonstrates to the DNR's satisfaction that the bypass occurred during an unavoidable malfunction condition (as defined in 40 CFR 60.2 of the federal NSPS regulations).

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15. Operating Condition Monitoring and Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The owner or operator shall, on a calendar quarter basis, report periods of excess emissions of the BACT standards in accordance with the quarterly reporting requirements outlined at 40 CFR 60.7 of the federal NSPS regulations.

B. The owner or operator shall notify the IDNR within 60 days and submit an application requesting limits according to NSPS Subpart Db should the boiler, while combusting any amount of seed corn, demonstrate a higher hourly SO_2, NO_x, and/or PM emission rate than at any previous time when the unit was combusting either coal alone or coal in combination with sludge.

C. The owner of operator shall monitor emissions form this unit and calculate the annual emissions, in tons per year on a calendar-year basis, for a period of five years following resumption of regular operations after the change made in project (06-494). This information shall be retained by the owner or operator for a period of ten years after the project (06-494) is completed (IAC 567 33.3(18)"f"(4)).

D. The owner or operator shall notify the IDNR within 60 days and submit an application requesting that the monitoring time period in Condition 15C shall be increased to ten years should the boiler, while combusting any amount of seed corn, demonstrate a higher hourly emission rat of any criteria pollutant, than at any previous time when the unit was combusting either coal alone or coal in combination with sludge.

15. Operating Condition Monitoring and Recordkeeping (continued)

E. The owner or operator shall submit a report to the DNR, within 60 days after the end of the year of the occurrence, if the annual emissions, in tons per year, exceed any of the following:

1. Particualte Matter (PM) – 31.54 tpy
2. Particulate Matter less than 10 microns (PM10) – 16.63 tpy
3. Sulfur Dioxide (SO2) – 623.3 tpy
4. Nitrogen Oxides (NOx) – 249.57 tpy
5. Carbon Monoxide (CO) – 194.87 tpy
6. Volatile Organic Compounds (VOC) – 40.76 tpy

The report shall contain the name, address and telephone number of the source, the annual emissions as calculated in Condition 15C, and any other information that the owner or operator wishes to include in the report (eg. An explanation as to why the emissions differ from the preconstruction projection).

F. Records must be maintained onsite to indicate the following:

1. Calendar date, and the 3 hour rolling average SO2 emission rates.
2. Opacity readings.
3. Daily amount of sludge material burned in B-8, on a dry weight basis.
4. Daily amount of seed corn burned in B-8, in tons and also on a percentage basis per calendar day.
5. Percentage of seed corn (in tons of seed corn ratio to tons of seed corn/coal/sludge on a daily basis) combusted in the last compliance test which demonstrated compliance with Condition 14E.
6. Reasons for noncompliance with the emission standards, and description of corrective action taken.
7. Identification of the boiler operating days for which emission or opacity data have not been obtained; justification for not obtaining sufficient data; and a description of corrective actions taken.
8. Identification of the times when emission data have been excluded from the calculation of average emission rates because of startup, shutdown, malfunction or other reasons, and justification for excluding dta for reasons other than startup, shutdown, or malfunction.
9. Identification of the "F" factor(s) used for calculations.
10. Identification of the time when the pollutant concentration exceeded full span of the continuous monitoring system.
11. Description of any modification to the continuous monitoring system which could affect the ability of the continuous monitoring system to comply with the Performance Specifications of Appendix B of the Federal NSPS regulations.
12. The permittee shall comply with all applicable requirements of 40 CFR Part 61, Subpart E, including:
    i. 61.54 - Sludge sampling
    ii. 61.55 – Monitoring of emissions and operations

G. The owner or operator shall make the information required to be documented and maintained pursuant to IAC 567 33.3(18)"f" available for review upon request for inspection by the Department or the general public pursuant to the requirements for Title V operating permits contained in 567-22.107(6).

H. For each bypass of the particulate matter emission control device occurring during periods other than periods of startup of the boiler, the owner or operator shall prepare a written report containing the following information: (1) the date, time and duration of the bypass; (2) an explanation of why the bypass could not have been avoided; (3) a listing of the factors which contributed to the bypass condition, and (4) a statement of what the owner or operator has done (or will do) to prevent the condition from recurring. Each report shall be submitted to the DNR within seven days of the occurrence.

16. Continuous Emission Monitoring

The owner/operator of boiler 8 shall install, calibrate, operate and maintain continuous monitoring systems and record the output of each system for monitoring the opacity, sulfur dioxide (SO_2), nitrogen oxide (NOx) and oxygen (O_2) or carbon dioxide (CO_2) content of the flue gas discharged into the atmosphere from this unit. Measurement of the O_2 (or CO_2) content of emissions shall be made at each location where SO_2 and NOx emissions are monitored. Federal specifications listed below shall be utilized for applying, operating, and maintaining the continuous monitoring equipment.

Federal Specification	Description
40 CFR 60.13	Monitoring Requirements
40 CFR 60, Appendix B	Performance Specifications
Specification 1	Opacity
Specification 2	SO_2
Specification 3	O_2, CO_2
40 CFR 60.7	Notification and Recordkeeping
40 CFR 60.45(e)	Method of Reducing Data (conversion)

Each continuous monitoring system shall be operated (and the data recorded) during all periods of operation of the boiler including periods of startup, shutdown, or malfunction except during periods of continuous emission monitoring system breakdown, repair, calibration check, and/or zero and span adjustments of the system in question. The one hour averages required under 40 CFR 60.13 shall be expressed in terms of pounds per million Btu of heat input and shall be used to calculate the 3-hour rolling average SO_2 emission rate and the 30-day rolling average NOx emission rates. The one hour averages and the 6-minute opacity averages shall be calculated using the data points required under 40 CFR 60.13(h). The span values for the NOx, SO_2, and opacity continuous monitoring systems shall be as follows:

NOx	:	1000 ppm
SO_2	:	1000 ppm
Opacity	:	Between 60 and 80%

Regarding breakdowns and/or repairs of the monitoring systems, the owner/operator shall initiate servicing of the system(s) within five days and return the monitor to operation in no more than fifteen days from initial data loss.

17. Permit History

Permit No.	Project No.	Description	Date	Stack Testing
82-A-092	82-060	Original Permit	03/26/85	Yes
82-A-092-S1	NA	Allow Sludge (Rescinded Condition)	03/24/86	Yes
82-A-092-S2	NA	Modify Sludge Condition (Conditional Permit)	05/10/90	No
82-A-092-S3	95-358	Reconcile With Consent Order 95-AQ-24	08/30/95	No
82-A-092-S4	97-504	Add Waste Catalyst	10/30/97	Yes
82-A-092-S5	02-242	Reconcile with Amended 95-AQ-24	06/25/02	Yes
82-A-092-S6	02-700	Modify Operating Limits	02/24/03	Yes
82-A-092-S7	03-171	Modify Hg Limit in Condition 10	06/17/03	Yes
82-A-092-S8	06-252	Modify Stack Diameter/Location	07/25/06	No
82-A-092-P9	06-494	Add Seed Corn Combustion	03/09/07	Yes
82-A-092-P10	12-280	Establish $PM_{2.5}$ Emission Limit	10/24/12	No

18. Description of Terms and Acronyms

The descriptions below are meant only as a brief explanation of terms contained within the permit and may not be the exact definition of the term or acronym as contained within the regulations.

acfm	Actual cubic feet per minute
Applicant	The owner, company official or authorized agent
BACT	Best Available Control Technology
Btu	British thermal unit
°C	Degrees Celsius
Condensable PM	Material that condenses and/or reacts upon cooling and dilution in the ambient air to form particulate matter immediately after discharge from the stack
Department	Iowa Department of Natural Resources
dia.	Diameter
°F	Degrees Fahrenheit
ft	Foot
g	grams
g/dscm	Grams per dry standard cubic meter
gr	Grains
gr/dscf	Grains per dry standard cubic foot
gr/scf	Grains per standard cubic foot
HAP	Hazardous Air Pollutant(s)
hp	horsepower
hr	Hour
lb	Pound
lb/hr	Pounds per hour
m	Meter
mg	Milligram
MM	Million
MW	Megawatt
NA	Not Applicable
$PM_{2.5}$	Particulate Matter with an aerodynamic diameter equal to or less than 2.5 microns
PM_{10}	Particulate Matter with an aerodynamic diameter equal to or less than 10 microns
PM – Federal	Particulate Matter that does not include the condensable PM
PM – State	Particulate Matter that includes condensable PM
ppm	parts per million
ppm_v	parts per million by volume
RACT	Reasonable Available Control Technology
ppm_w	parts per million by weight
scfm	Standard cubic feet per minute
SHAP	Single hazardous air pollutant
THAP	Total hazardous air pollutants
tons/yr	Tons per year
yr	Year

END OF PERMIT

Iowa Department of Natural Resources
Air Quality Construction Permit

Permit Holder

Firm: Monsanto Company

Contact:

Mark Mathias
Environmental Engineer

(563) 262-7140

2500 Wiggins Road
Muscatine, IA 52761

Responsible Party:

Shawn Schrader
Plant Manager

2500 Wiggins Road
Muscatine, IA 52761

Permitted Equipment

Emission Unit(s): CAC Process Flare Burner (EU11-119-1)
Maximum Heat Input: 34 MMBtu per hour
Acid Cracking (EU11-119-2)
Maximum Capacity: 5,600 pounds per hour of process gas

Control Equipment: Flare (CE11-119)
Pilot Max Heat Input: 0.05 MMBtu per hour

Emission Point: EP-234

Equipment Location: 2500 Wiggins Road
Muscatine, Iowa 52761

Plant Number: 70-01-008

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.

Permit No.	Project No.	Description	Date	Stack Testing
88-A-001-S3	15-033	Restrict to Natural Gas Combustion	05/13/15	No

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

CPFP|7001008|051315|15033|82A092P11

PZ

PERMIT CONDITIONS

1. Departmental Review

This permit is issued based on information submitted by the applicant. Any misinformation, false statements or misrepresentations by the applicant or by the applicant's representative(s) 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 – 35; and 40 Code of Federal Regulations (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 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.

2. Owner and Operator Responsibility

This 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. The permit holder, owner, and operator of the facility shall assure that the installation of the equipment listed in this permit conforms to the design in the application (i.e. type, maximum rated capacity, etc.). No person shall construct, install, reconstruct or alter this emission unit(s), control equipment, or emission point without the required amended 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 assuring that the installation, operation, and maintenance of the equipment listed in this permit is in compliance with the provisions of this permit and all other applicable requirements.

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"*.

3. 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 Department shall be notified in writing at least seven (7) days prior to transferring to the new location unless the equipment will be located in an area which is classified as nonattainment for the National Ambient Air Quality Standards (NAAQS) or is a maintenance area for the NAAQS in which case notification shall be given fourteen (14) days prior to the relocation of equipment[1] (See Permit Condition 8.A.2). The owner or operator will be notified at least ten (10) days prior to the scheduled relocation if the relocation will cause a violation of the (NAAQS). In such case, a supplemental permit shall be required prior to the initiation of construction of additional control equipment or modifications to equipment needed to meet the standards.

[1] A list of nonattainment areas and maintenance areas for the NAAQS can be obtained from the Department.

4. Construction

A. General Requirements
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.

4. Construction (Continued)

In permit amendments, all provisions of the original permit remain in full force and effect unless they are specifically changed by the permit amendment. If a proposed project is not timely completed, the owner or operator shall seek a permit amendment in order to revert back to the most recent previous version of the permit. The previous, unchanged permit provisions are included in the amendment for your convenience only and are unappealable.

This permit or amendment shall become void if any one of the following conditions occurs:
(1) the construction or implementation of the proposed project, as it affects the emission point permitted herein, is not initiated within eighteen (18) months after the permit issuance date; or
(2) the construction or implementation of the proposed project, as it affects the emission point permitted herein, is not completed within thirty-six (36) months after the permit issuance date; or
(3) the construction or implementation of the proposed project, as it affects the emission point permitted herein, is not completed within a time period specified elsewhere in this permit.

B. Changes to Plans and Specifications

The owner or operator shall amend this permit or amendment prior to startup of the equipment if:
(1) Any changes are made to the final plans and specifications submitted for the proposed project; or
(2) This permit becomes void.

Changes to the final plans and specification shall include changes to plans and specifications for permitted equipment and control equipment and the specified operation thereof.

C. Amended Permits

The owner or operator may continue to act under the provisions of the previous permit for the affected emission unit(s) and emission point, together with any previous amendment to the permit, until one of the following conditions occurs:
(1) The proposed project authorized by this amendment is completed as it affects the emission unit(s) and emission point permitted herein; or
(2) This current amendment becomes void.

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5. 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 35.

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6. Excess Emissions

Per 567 IAC 24.1(1), 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 (1) six-minute period per one (1) 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 by telephone, electronic mail or in person to the appropriate field office within eight (8) hours of, or at the start of, the first working day following the onset of the incident (See Permit Condition 8.B.1). A written report of an incident of excess emissions shall be submitted as a follow-up to all required initial reports within seven (7) days of the onset of the upset condition (See Permit Condition 8.B.2).

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7. Permit Violations

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

8. Notification, Reporting, and Recordkeeping

A. The owner or operator shall furnish the Department the following written notifications:
   (1) Per 567 IAC 22.3(3)"b":
      (a) The date construction, installation, or alteration is initiated postmarked within thirty (30) days following initiation of construction, installation, or alteration;
      (b) The actual date of startup, postmarked within fifteen (15) days following the start of operation;
   (2) Per 567 IAC 22.3(3)"f", when portable equipment for which a permit has been issued is to be transferred from one location to another, the Department shall be notified:
      (a) at least fourteen (14) days before equipment relocation if the equipment will be located in a nonattainment area for the National Ambient Air Quality Standards (NAAQS) or a maintenance area for the NAAQS;
      (b) at least seven (7) days before equipment relocation.
   (3) Per 567 IAC 22.3(8), a new owner shall notify the Department of the transfer of equipment ownership within thirty (30) days of the occurrence. The notification shall be mailed to:

      Air Quality Bureau
      Iowa Department of Natural Resources
      7900 Hickman Road, Suite 1
      Windsor Heights, IA 50324

      and include the following information:
      - The date of ownership change,
      - The name, address, and telephone number of the responsible official, the contact person, and the owner of the equipment both before and after the ownership change; and
      - The construction permit number(s) of the equipment changing ownership.
   (4) Unless specified per a federal regulation, notification of each compliance test required by Permit Condition 12 shall be done not less than thirty (30) days before the required test or performance evaluation of a continuous emission monitor [567 IAC 25.1(7)]. The notification shall include:
      - the time,
      - the place,
      - the name of the person who will conduct the tests,
      - and other information as required by the Department;

      If the owner or operator does not provide timely notice to the Department, the Department shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with the applicable rules or permit conditions. Upon written request, the Department may allow a notification period of less than thirty (30) days.

B. The owner or operator shall furnish the Department with the following reports:
   (1) Per 567 IAC 24.1(2), an incident of excess emissions as defined in 567 IAC 20.2 shall be reported within eight (8) hours or at the start of the first working day following the onset of the incident. The report may be made by electronic mail, in person or by telephone.
   (2) Per 567 IAC 24.1(3), a written report of an incident of excess emissions as defined in 567 IAC 20.2 shall be submitted as a follow-up to all required initial reports to the Department within seven (7) days of the onset of the upset condition.
   (3) Operation of this emission unit(s) or control equipment outside of those operating parameters specified in Permit Condition 14 in accordance to the schedule set forth in 567 IAC 24.1.
   (4) Per 567 IAC 25.1(6), the owner or operator of any facility required to install a continuous monitoring system or systems shall provide quarterly reports to the Director, no later than thirty (30) calendar days following the end of the calendar quarter, on forms provided by the Director.

8. Notification, Reporting, and Recordkeeping (Continued)

(5) Per 567 IAC 25.1(7), 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;

C. 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 unless otherwise required by another applicable law (i.e. NSPS, NESHAP, etc.)

D. The owner or operator 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) 725-9549
Fax: (515) 725-9501

E. The owner or operator 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) 725-9545
Fax: (515) 725-9502

F. The owner or operator 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) 725-9550 Fax: (515) 725-9502	DNR Field Office 6 1023 West Madison Washington, IA 52353 Telephone: (319) 653-2135 Fax: (319) 653-2856

9. Appeal Rights

All conditions within an original permit may be appealed, subject to the appeal rights set forth in 561 IAC Chapter 7. Amended conditions within a permit amendment may be appealed, subject to the appeal rights set forth in 561 IAC Chapter 7. In permit amendments, all provisions of the original permit remain in full force and effect unless they are specifically changed by the permit amendment. The previous, unchanged permit provisions are included in the amendment for your convenience only and are unappealable.

Per 561 IAC 7.4(1), the owner or operator shall file any written notice of appeal within thirty (30) days of receipt of the issued permit. The written notice of appeal shall be filed with the Director of the Department with a copy to the Legal Services Bureau Chief at the following addresses:

Director Iowa Department of Natural Resources 502 East 9th Street Des Moines, IA 50319	Bureau Chief Legal Services Bureau Iowa Department of Natural Resources 502 East 9th Street Des Moines, IA 50319

10. Emission Limits

The following emission limits shall not be exceeded:

Pollutant	lb/hr[1]	tons/yr	Additional Limits	Reference (567 IAC)
Particulate Matter (PM) – Federal	NA	NA	NA	NA
Particulate Matter (PM)	0.52[2]	NA	0.1 gr/dscf	23.3(2)'a"
PM_{10}	0.52[2]	NA	NA	NA
$PM_{2.5}$	0.52[3]	NA	NA	NAAQS
Opacity	NA	NA	40%[4, 5]	NA
Sulfur Dioxide (SO_2)	0.02[6]	NA	500 ppm_v	RACT, 23.3(3)"e"
Nitrogen Oxides (NO_X)	NA	NA	NA	NA
Volatile Organic Compounds	NA	NA	NA	NA
Carbon Monoxide (CO)	NA	NA	NA	NA
Lead (Pb)	NA	NA	NA	NA
(Single HAP)	NA	NA	NA	NA
(Total HAP)	NA	NA	NA	NA

[1] Standard is expressed as the average of three (3) runs.
[2] Limits established in Project 12-280 to restrict potential emissions.
[3] Limit requested by facility to demonstrate attainment with the 24-hour and annual $PM_{2.5}$ NAAQS.
[4] The emission limit is a six (6) minute average.
[5] An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
[6] The SO_2 limit is established to address the nonattainment designation for a portion of Muscatine County published in the Federal Register (78 FR 47191) on August 5, 2013. The nonattainment designation is for the 1-hour SO_2 primary national ambient air quality standard promulgated by EPA in 2010 (75 FR 35519, June 22, 2010).

11. Emission Point Characteristics

This emission point shall conform to the specifications listed below:

Parameter	Value
Stack Height, (ft, from the ground)	160 Feet
Discharge Style	Vertical Unobstructed Discharge
Stack Opening (inches, diameter)	20 inch Diameter
Exhaust Temperature (°F)	2700 °F
Exhaust Flowrate (scfm)	3,076 scfm

The temperature and flowrate 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 either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

12. Compliance Demonstration(s)

Pollutant	Compliance Demonstration	Compliance Methodology	Frequency
PM – Federal	No	Performance Testing	NA
PM – State	No	Performance Testing	NA
PM_{10}	No	Performance Testing	NA
$PM_{2.5}$	No	Performance Testing	NA
Opacity	No	Performance Testing	NA
SO_2	No	Performance Testing	NA
NO_x	No	Performance Testing	NA
VOC	No	Performance Testing	NA
CO	No	Performance Testing	NA
Pb	No	Performance Testing	NA
HAP	No	Performance Testing	NA

If an initial compliance demonstration specified above is testing, the owner or the owner's authorized agent 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 or the owner's authorized agent shall verify compliance with the emission limitations contained in Permit Condition 10 according to the frequency and timeframe noted above.

If testing is required, the owner or the owner's authorized agent 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	1 hour	40 CFR 60, Appendix A, Method 5
PM – State	1 hour	40 CFR 60, Appendix A, Method 5 40 CFR 51 Appendix M Method 202
PM_{10}	1 hour	40 CFR 51, Appendix M, 201A with 202
$PM_{2.5}$	1 hour	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 18 or 40 CFR 60, Appendix A, Method 320
CO	1 hour	40 CFR 60, Appendix A, Method 10
Pb	1 hour	40 CFR 60, Appendix A, Method 12
HAP	1 hour	40 CFR 60, Appendix A, Method 18

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.

Per 567 IAC 25.1(7)"a", at the Department's request, a pretest meeting shall be held not later than fifteen (15) days before the owner or operator conducts the compliance demonstration. A testing protocol shall be submitted to the Department no later than fifteen (15) days before the owner or operator conducts the compliance demonstration. 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. A representative of the Department shall be allowed to witness the test(s). The Department shall reserve the right to impose additional, different, or more detailed testing requirements.

12. Compliance Demonstration(s) (continued)

The owner shall be responsible for the installation and maintenance of test ports. The unit(s) being sampled shall 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.

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13. New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

This emission unit is not subject to any New Source Performance Standard or National Emission Standards for Hazardous Air Pollutants (NESHAP) at this time. There are no applicable subparts at this time.

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14. Operating Limits

Operating limits for this emission unit shall be:

A. The owner or operator is limited to firing CAC Process Flare Burner (EU11-119-1) on natural gas fuel only.
B. All control equipment and parametric monitors shall be maintained according to the manufacturer's specifications.

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15. Operating Condition Monitoring and Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. Retain documentation onsite that only natural gas fuel is fired CAC Process Flare Burner (EU11-119-1).
B. The owner or operator shall maintain a record of all inspections and calibration of the control equipment and associated parametric monitors. The owner or operator shall document the results of the inspections and calibrations and note any repairs that were the result of the inspections and calibrations.

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16. Continuous Emission Monitoring

Continuous emission monitoring is not required by this permit at this time.

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17. Permit History

Permit No.	Project No.	Description	Date	Stack Testing
88-A-001	88-002	Original Permit	01/21/88	No
88-A-001-S1	89-211	Supplemental Permit	03/19/90	No
88-A-001-S2	12-280	Establish $PM_{2.5}$ Limits	10/24/12	No

18. Description of Terms and Acronyms

The descriptions below are meant only as a brief explanation of terms contained within the permit and may not be the exact definition of the term or acronym as contained within the regulations.

acfm	Actual cubic feet per minute
Applicant	The owner, company official or authorized agent
Btu	British thermal unit
°C	Degrees Celsius
Condensable PM	Material that condenses and/or reacts upon cooling and dilution in the ambient air to form particulate matter immediately after discharge from the stack
Department	Iowa Department of Natural Resources
dia.	Diameter
°F	Degrees Fahrenheit
ft	Foot
g	grams
g/dscm	Grams per dry standard cubic meter
gr	Grains
gr/dscf	Grains per dry standard cubic foot
gr/scf	Grains per standard cubic foot
HAP	Hazardous Air Pollutant(s)
hp	horsepower
hr	Hour
lb	Pound
lb/hr	Pounds per hour
m	Meter
mg	Milligram
MM	Million
MW	Megawatt
NA	Not Applicable
$PM_{2.5}$	Particulate Matter with an aerodynamic diameter equal to or less than 2.5 microns
PM_{10}	Particulate Matter with an aerodynamic diameter equal to or less than 10 microns
PM – Federal	Particulate Matter that does not include the condensable PM
PM – State	Particulate Matter that includes condensable PM
ppm	parts per million
ppm_v	parts per million by volume
ppm_w	parts per million by weight
RACT	Reasonable Available Control Technology
scfm	Standard cubic feet per minute
SHAP	Single hazardous air pollutant
THAP	Total hazardous air pollutants
tons/yr	Tons per year
yr	Year

END OF PERMIT