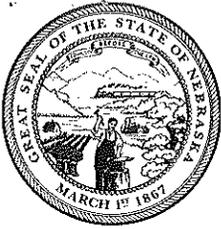


## Appendix A

### Columbus, NE – Dry Mill Air Permit



**Dave Heineman**  
Governor

# STATE OF NEBRASKA

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**Michael J. Linder**

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## AIR QUALITY CONSTRUCTION PERMIT PREVENTION OF SIGNIFICANT DETERIORATION

**PERMIT NUMBER:** CP07-0061

**Facility Name:** Archer Daniels Midland Company  
(Dry Mill)

**NDEQ Facility ID#:** 39285

**Mailing Address:**

3000 East 8<sup>th</sup> Street  
Columbus, Nebraska 68601-9073

**Facility Location:**

3000 East 8<sup>th</sup> Street  
Columbus, Platte County, Nebraska 68601

**Project Description:** Permit revision for an ethanol manufacturing plant producing approximately 400 million gallons of denatured ethanol annually

**Standard Industrial Classification (SIC) Code:** 2869, Industrial Organic Chemicals

**SIGNIFICANT PERMIT REVISION to permit:** CP06-0005 issued October 20, 2006 (superseded)

This construction permit supersedes permit CP06-0005 and approves revisions to air quality permit CP06-0005 as identified in the air quality construction permit application #07-0061 received August 27, 2007, including any supporting information received prior to issuance of this permit. Additional details of the permit revisions, including changes in estimated pollutant emissions caused by the revisions, can be found in the accompanying Fact Sheet.

Pursuant to Chapter 14 of the Nebraska Air Quality Regulations, the public has been notified by prominent advertisement of this permit revision and the thirty (30) day period allowed for comments has elapsed.

Compliance with this permit shall not be a defense to any enforcement action for violation of an ambient air quality standard. The permit holder, owner, and operator of the facility shall assure that the installation, operation, and maintenance of all equipment is in compliance with all of the conditions of this permit.

The undersigned issues this permit on behalf of the Director under the authority of Title 129 – Nebraska Air Quality Regulations as amended August 18, 2008.

Date

8-26-2009

Jay M. Ringenberg,  
Deputy Director of Programs

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**ABBREVIATIONS, SYMBOLS, and UNITS OF MEASURE**

AP-42	Compilation of Air Pollutant Emission Factors, Volume I, Stationary Point and Area Sources	NO <sub>2</sub>	Nitrogen Dioxide
BACT	Best Available Control Technology	NO <sub>x</sub>	Nitrogen Oxides
bhp	Brake Horsepower	NSPS	New Source Performance Standard
BMP	Best Management Practice	NSR	New Source Review
btu	British Thermal Unit	PAL	Plant-wide Applicability Limit
bu	Bushel	Pb	Lead (chemical abbreviation)
CAA	Clean Air Act	PbR	Permit-by-Rule
CE	Control Equipment	PEMS	Parametric Emissions Monitoring System
CEM	Continuous Emissions Monitor	PM	Particulate Matter
CEMS	Continuous Emissions Monitoring System	PM <sub>10</sub>	Particulate Matter with and aerodynamic diameter equal to or less than 10 microns
cf	Cubic feet	PM <sub>2.5</sub>	Particulate Matter with and aerodynamic diameter equal to or less than 2.5 microns
CFR	Code of Federal Regulations	ppb	Parts per Billion
CO	Carbon Monoxide	ppm	Parts per Million
CO <sub>2</sub>	Carbon Dioxide	ppmv	Parts per Million by volume
CP	Construction Permit	ppmvd	Parts per Million by volume, dry basis
DGS	Distiller's Grains with Solubles	PSD	Prevention of Significant Deterioration
DDGS	Dry Distillers Grains with Solubles	PTE	Potential to Emit
dscf	Dry Standard Cubic Feet	RVP	Reid Vapor Pressure
dscfm	Dry Standard Cubic Feet per Minute	RATA	Relative Accuracy Test Audit
EMIS	Emergency Management Information System	RMP	Risk Management Plan
EPA	Environmental Protection Agency	RTO	Regenerative Thermal Oxidizer
EQC	Environmental Quality Council	scf	Standard Cubic Feet
EP	Emission Point	SIC	Standard Industrial Classification
ESP	Electrostatic Precipitator	SIP	State Implementation Plan
EU	Emission Unit	SO <sub>2</sub>	Sulfur Dioxide
FID	Facility Identification Number	SO <sub>x</sub>	Sulfur Oxides
FDCP	Fugitive Dust Control Plan	TDS	Total Dissolved Solids
FGR	Flue Gas Recirculation	TO	Thermal Oxidizer
FIP	Federal Implementation Plan	TO/HRSG	Thermal Oxidizer with Heat Recovery Steam Generator
FR	Federal Register	tpy	Tons per year
ft	Feet	TRS	Total Reduced Sulfur
FTIR	Fourier Transform Infrared	TSP	Total Suspended Particulate Matter
H <sub>2</sub> S	Hydrogen Sulfide	ULNB	Ultra Low NO <sub>x</sub> Burner
HAP	Hazardous Air Pollutant	UST	Underground Storage Tank
hp	Horsepower	UTM	Universal Transverse Mercator
hr	Hour	VHAP	Volatile Hazardous Air Pollutant
LDAR	Leak Detection and Repair	VMT	Vehicle Miles Traveled
LNB	Low NO <sub>x</sub> Burner	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology	WDGS	Wet Distiller's Grains with Solubles
Mgal	One Thousand gallons		
MMBtu	One Million British Thermal Units		
MMscf	One Million Standard Cubic Feet		
MSDS	Material Safety Data Sheet		
MW	Megawatt		
NAAQS	National Ambient Air Quality Standards		
NDEQ	Nebraska Department of Environmental Quality		
NESHAP	National Emission Standards for Hazardous Air Pollutants		

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**I. GENERAL CONDITIONS**

- (A) This permit is not transferable to another source or location. {Chapter 17}
- (B) Holding of this permit does not relieve the owner or operator of the source from the responsibility to comply with all applicable portions of the Nebraska Air Quality Regulations and any other requirements under local, State, or Federal law. Any permit noncompliance shall constitute a violation of the Nebraska Environmental Protection Act and the Federal Clean Air Act, and is grounds for enforcement action or permit revocation. {Chapter 41 & Chapter 17, Section 011}
- (C) Application for review of plans or advice furnished by the Director will not relieve the owner or operator of legal compliance with any provision of these regulations, or prevent the Director from enforcing or implementing any provision of these regulations. {Chapter 37}
- (D) Any owner or operator who failed to submit any relevant facts or who submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. If the owner or operator wishes to make changes at the source that will result in change(s) to values, specifications, and/or locations of emission points that were indicated in the permit application (or other supplemental information provided by the owner or operator and reviewed by the NDEQ in issuance of this permit), the owner or operator must receive approval from the NDEQ before the change(s) can be made. In addition, any modification which may result in an adverse change to the air quality impacts predicted by atmospheric dispersion modeling (such as changes in stack parameters or increases in emission rates, potential emissions, or actual emissions) shall have prior approval from the NDEQ. The owner or operator shall provide all necessary information to verify that there are no substantive changes affecting the basis upon which this permit was issued. Information may include, but not be limited to, additional engineering, modeling and ambient air quality studies. {Chapter 17, Section 006, 007, & 008}
- (E) Approval to construct, reconstruct and/or modify the source will become invalid if a continuous program of construction is not commenced within 18 months after the date of issuance of the construction permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable period of time. {Chapter 17, Section 012}
- (F) The owner/operator of the source shall provide the following notifications to the NDEQ:
- (1) The date construction, reconstruction or modification commenced as defined in Chapter 1, Section 031. Notification shall be postmarked no later than 30 days after such date and include a summary description of whether the requirement was met through: {Chapter 17, Section 012}
- (a) Initiating physical on-site construction activities of a permanent nature that meet the definition of “begin actual construction”, or
- (b) Entering into binding agreements or contractual obligations. If this option is used, the notice shall also include a brief summary of each binding agreement or contractual obligation entered into, the date of the agreement or contract, and why it cannot be cancelled or modified without substantial loss to the owner or operator.

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- (2) The date of initial startup of operations postmarked within 15 days after such date. {Chapter 7, Section 002.03}
- (G) The owner or operator shall allow the NDEQ, EPA or an authorized representative, upon presentation of credentials to: {Neb. Rev. Statute §81-1504}
- (1) Enter upon the owner or operator's premises at reasonable times where a source subject to this permit is located, emissions-related activity is conducted or records are kept, for the purpose of ensuring compliance with the permit or applicable requirements;
- (2) Have access to and copy, at reasonable times, any records, for the purpose of ensuring compliance with the permit or applicable requirements;
- (3) Inspect at reasonable times any facilities, pollution control equipment, including monitoring and air pollution control equipment, practices, or operations, for the purpose of ensuring compliance with the permit or applicable requirements;
- (4) Sample or monitor at reasonable times substances or parameters for the purpose of ensuring compliance with the permit or applicable requirements.
- (H) When requested by the NDEQ, the owner or operator shall submit completed emission inventory forms for the preceding year to the NDEQ by March 31 of each year. {Chapter 6}
- (I) Open fires are prohibited except as allowed by Chapter 30.
- (J) Particulate Matter – General Requirements: {Chapter 32}
- (1) The owner or operator shall not cause or permit the handling, transporting or storage of any material in a manner, which allows particulate matter to become airborne in such quantities and concentrations that it remains visible in the ambient air beyond the property line.
- (2) The owner or operator shall not cause or permit the construction, use, repair or demolition of a building, its appurtenances, a road, a driveway, or an open area without applying all reasonable measures to prevent particulate matter from becoming airborne and remaining visible beyond the property line. Such measures include, but not limited to, paving or frequent cleaning of roads, driveways and parking lots; application of dust-free surfaces; application of water; and planting and maintenance of vegetative ground cover.
- (K) If and when the Director declares an air pollution episode as defined in Chapter 38, Sections 003.01B, 003.01C, or 003.01D, the owner or operator shall immediately take all required actions listed in Title 129, Appendix I until the Director declares the air pollution episode terminated.
- (L) This permit may be revised (reopened and reissued) or revoked for cause in accordance with Title 129 and Title 115, Rules of Practice and Procedure. Conditions under which this permit will be revised or revoked for cause, include but are not limited to: {Chapter 15, Section 006}
- (1) A determination by the Director, or the Administrator of EPA that:
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- (a) the permit must be revised to ensure compliance with the applicable requirements;
  - (b) the permit contains a material mistake or that inaccurate statements were made in the emissions standards or other terms or conditions of the permit.
- (2) The existence at the source of unresolved noncompliance with applicable requirements or a term or condition of the permit, and refusal of the owner or operator to agree to an enforceable schedule of compliance to resolve the noncompliance;
  - (3) The submittal by the owner or operator of false, incomplete, or misleading information to the NDEQ or EPA;
  - (4) A determination by the Director that the source or activity endangers human health or the environment and that the danger cannot be removed by a revision of the permit; or
  - (5) The failure of the owner or operator to pay a penalty owed pursuant to court order, stipulation and agreement, or order issued by the Administrator of the EPA.

## II. SPECIFIC CONDITIONS

- (A) Recordkeeping: Records of all measurements, results, inspections, and observations as required to ensure compliance with all applicable requirements shall be maintained on-site as follows:
  - (1) All calculations and records required throughout this permit shall be completed no later than the fifteenth (15<sup>th</sup>) day of each calendar month and shall include all information through the previous calendar month, unless otherwise specified in this permit.
  - (2) All records required throughout this permit shall be kept for a minimum of five years and shall be clear and readily accessible to Department representatives, unless otherwise specified in this permit.
  - (3) Copies of all notifications, reports, test results, and plans.
  - (4) Calibration records for all operating parameter monitoring equipment.
  - (5) Operation and Maintenance manuals detailing proper operation and maintenance of all permitted emission units, required control equipment, and required monitoring equipment shall be kept for the life of the equipment.
  - (6) Records documenting equipment failures, malfunctions, or other variations, including date and time of occurrence, remedial action taken, and when corrections were made to each piece of permitted equipment, required control equipment, and required monitoring equipment.
- (B) All permitted emission units, control equipment, and monitoring equipment shall be properly installed, operated, and maintained.
- (C) Any emissions due to malfunctions, unplanned shutdowns, and ensuing start-ups that are, or may be, in excess of applicable emission limits shall be reported to the NDEQ in accordance with Chapter 35, Section 005.

- (D) The performance tests required in the permit shall be completed and submitted to the NDEQ as follows: {Chapter 34}
- (1) Performance tests shall be conducted while operating at full capacity within sixty (60) days after reaching the maximum capacity, but not more than 180 days after the start-up of operations of each unit, unless otherwise specified by the NDEQ.
  - (2) Testing shall be conducted according to the methodologies found in Title 129, Chapter 34, Section 002, or other NDEQ approved methodologies.
  - (3) Performance tests shall be conducted for a minimum of three (3) one hour runs unless another run time is specified by the applicable Subpart or as deemed appropriate by the NDEQ.
  - (4) The owner or operator of a source shall provide the NDEQ at least thirty (30) days written notice prior to testing to afford the NDEQ an opportunity to have an observer present. The owner or operator shall also provide the NDEQ with an emissions testing protocol at least thirty (30) days prior to testing.
  - (5) The owner or operator shall monitor the operating parameters for process and control equipment during the performance testing required in the permit.
  - (6) A written copy of the test results signed by the person conducting the test shall be provided to the NDEQ within forty-five (45) days of completion of the test and will, at a minimum, contain the following items:
    - (a) A description of the source's operating parameters (i.e. production rates, firing rates of combustion equipment, fuel usage, etc.), control equipment parameters (i.e. baghouse fan speeds, scrubber liquid flow rates, etc.), and ambient conditions (i.e. weather conditions, etc.) during testing.
    - (b) Copies of all data sheets from the test run(s).
    - (c) A description and explanation of any erroneous data or unusual circumstance(s) and the cause for such situation.
    - (d) A final conclusion section describing the outcome of the testing.
- (E) The following conditions apply to the verification of NAAQS modeling analysis: {Chapter 4}
- (1) The stack dimensions of the following emission points shall be constructed as indicated below:

Emission Point ID#	Emission Point Name	Minimum Stack Height (m)	Stack Exit Point Maximum Inside Diameter (m)
DM01	Dry Mill Receiving Baghouse	44.99	1.40
DM04	Grain Conveying, Milling, and Classification Vent	48.01	1.80
DM04A	Flour Conveyor Baghouse	34.99	0.50

Emission Point ID#	Emission Point Name	Minimum Stack Height (m)	Stack Exit Point Maximum Inside Diameter (m)
DM10	Byproduct Conveying Baghouse	45	0.6
DM11	Byproduct Storage Baghouse	45	0.5
DM12	Byproduct Loadout Baghouse	30	0.6
DM39	Degermination Scrubber	85	2.1
DM05	Fermentation RTO	30.5	1.7
DM09	Denatured Ethanol Loadout Flare	11	0.6
DM07A	Natural Gas Fired DDGS Dryer #1	65	1.2
DM07B	Natural Gas Fired DDGS Dryer #2	65	1.2
DM07C	Natural Gas Fired DDGS Dryer #3	65	1.2
DM07D	Natural Gas Fired DDGS Dryer #4	65	1.2
DM07E	Natural Gas Fired DDGS Dryer #5	65	1.2
DM07F	Natural Gas Fired DDGS Dryer #6	65	1.2
DM07G	Natural Gas Fired DDGS Dryer #7	65	1.2
DM07H	Natural Gas Fired DDGS Dryer #8	65	1.2
DM08A	DDGS Cooling Baghouse #1	45	1.3
DM08B	DDGS Cooling Baghouse #2	45	1.3
DM08C	DDGS Cooling Baghouse #3	45	1.3
DM13-20C	Dry Mill Cooling Tower	13.7	12.5

A site survey (using 1422' MSL as basis for ground level to measure stack heights), or similar documentation containing the as-built stack dimensions, shall be maintained on-site and kept for the life of the source. If stack dimensions do not comply with the table above, the owner or operator shall notify the NDEQ prior to start-up of any emission unit and, if requested, submit a revised air dispersion modeling analysis to the NDEQ to ensure that the source will not interfere with the attainment or maintenance of the ambient air quality standards in Chapter 4.

- (2) The owner or operator shall sufficiently restrict public access to the source at the ambient air boundary relied upon in the air dispersion modeling analysis for the NAAQS compliance demonstration. The vertices of the boundary shall be located at the coordinates indicated below:

Fence-line Vertex ID#	UTM X (m)	UTM Y (m)
NW	642,005	4,586,995
NE	643,500	4,587,040
SE	643,558	4,584,725
SW-1	642,488	4,585,260
SW-2	642,475	4,585,980
SW-3	642,023	4,585,995

A site survey, or similar documentation containing the locations of the boundary vertices, shall be maintained on-site and kept for the life of the source. If the boundary dimensions do not comply with the table above, the owner or operator shall notify the NDEQ prior to start-up of any emission unit and, if requested, submit a revised air dispersion modeling analysis to the NDEQ to ensure that the source will not interfere with the attainment or maintenance of the ambient air quality standards in Chapter 4.

**III.(A) Specific Conditions for Grain Receiving and Processing**

- (1) Permitted Emission Points: The source is permitted to construct the emission points and associated emission units identified in the following table:

Emission Point ID#	Required Control Equipment ID# and Control Equipment Description	Emission Unit Description
DM01	DM01: Dry Mill Receiving Baghouse	EU-DM01A: Rail Unloading
		EU-DM01B: Truck Unloading
DM04	DM04: Grain Conveying and Milling Baghouse	EU-DM04-1: Grain Conveying
		EU-DM04-2: Grain Cleaning
		EU-DM04-3: Hammermilling
		EU-DM04-4: Grain Classification
DM04A	DM04A: Flour Conveyor Baghouse	EU-DM04A: Flour Conveyor

- (2) Emission Limitations and Testing Requirements:

Pollutant emission rates from each emission point identified in the table below shall not exceed the permitted limits. Initial performance testing, if required, shall be conducted in accordance with Specific Condition II.(D).

Emission Point ID#	Pollutant	Permitted Limit	Averaging Period	Basis for Permit Limit	Initial Performance Testing Required (Yes/No)
DM01	PM/PM <sub>10</sub>	0.004 gr/dscf	3-hr or test method average	Chapter 19	Yes
DM04	PM/PM <sub>10</sub>	0.004 gr/dscf	3-hr or test method average	Chapter 19	Yes
DM04A	PM/PM <sub>10</sub>	0.004 gr/dscf	3-hr or test method average	Chapter 19	Yes

- (3) Operational and Monitoring Requirements and Limitations

- (a) Emissions from the emission units identified in Condition III.(A)(1) shall be controlled by pollution control equipment as follows: EU-DM01A and EU-DM01B shall be controlled by DM01; EU-DM04-1, EU-DM04-2, EU-DM04-3, EU-DM04-4 shall be controlled by DM04; and EU-DM04A shall be controlled by DM04A. {Chapters 19 and 20}
- (b) Operation and maintenance of each baghouse shall be in accordance with the following requirements: {Chapters 19 and 20}
- (i) The baghouse shall be operated and be controlling emissions at all times when the associated emission units are in operation.
- (ii) The baghouse shall be equipped with an operational pressure differential indicator. Pressure differential indicator readings shall be recorded at least once each day that the associated baghouse is operating.

- (iii) Baghouse filter bags are to be inspected and/or replaced as often as necessary to ensure proper operation or more frequently as indicated by pressure differential indicator readings or other indication of bag failure.
  - (iv) Observations at least once each day during daylight hours of baghouse operation shall be conducted to determine whether there are visible emissions from the stack, leaks, noise, or other indications that corrective action is needed. If corrective action is required, it shall occur immediately.
  - (v) The owner or operator shall maintain an on-site inventory of spare bags of each type used to ensure rapid replacement in the event of bag failure.
- (c) Grain receiving operations, by truck, identified in Condition III.(A)(1) shall be located inside a building and all hopper bottom trucks shall utilize choke feed practices during receipt of grain. Grain receiving operations, by rail, identified in Condition III.(A)(1) shall be located inside a building that is fitted with plastic strip curtains on the entrances and exits. {Chapters 19 and 20}

(4) Applicable NSPS, NESHAP, and MACT Requirements:

The affected facilities associated with the following emission points are subject to the NSPSs listed below: DM01, DM04, and DM04A.

Applicable Standard	Title	Rule Citation
NSPS, Subpart A	General Provisions	Chapter 18, Sec. <u>001.01</u> 40 CFR 60.1
NSPS, Subpart DD	Grain Elevators	Chapter 18, Sec. <u>001.19</u> 40 CFR 60.300

(5) Reporting and Recordkeeping Requirements:

- (a) Records documenting the date, time, and pressure differential reading for each day the associated baghouse is in operation.
- (b) Filter replacement records including the date the filter replacement occurred and the type of filter installed.
- (c) Records documenting the date, time, observations, and corrective actions taken for each day the associated baghouse is in operation.
- (d) For affected facilities subject to NSPS, Subpart DD, notifications and record keeping as required by 40 CFR 60.7.

**III.(B) Specific Conditions for Degermination**

- (1) Permitted Emission Points: The source is permitted to construct the emission points and associated emission units identified in the following table:

Emission Point ID#	Required Control Equipment ID# and Control Equipment Description	Emission Unit Description
DM39	DM39: Degermination Wet Scrubber	EU-DM39A: Germ Dryer #1
		EU-DM39B: Germ Dryer #2
		EU-DM39C: Germ Dryer #3
		EU-DM39D: Germ Dryer #4
		EU-DM39E: Germ Cooler #1
		EU-DM39F: Germ Cooler #2

- (2) Emission Limitations and Testing Requirements:

- (a) Pollutant emission rates from each emission point identified in the table below shall not exceed the permitted limits. Initial performance testing, if required, shall be conducted in accordance with Specific Condition II.(D).

Emission Point ID#	Pollutant	Permitted Limit	Averaging Period	Basis for Permit Limit	Initial Performance Testing Required (Yes/No)
DM39	PM/PM <sub>10</sub>	10.24 lb/hr	3-hr or test method average	Chapter 19	Yes
	SO <sub>2</sub>	11.92 lb/hr	3-hr or test method average	Chapter 19	Yes
	VOC	6.18 lb/hr <sup>[1]</sup>	3-hr or test method average	Chapter 19	Yes
	HAP	50% Control Efficiency or 20.0 ppmvd for combined HAPs <sup>[2]</sup>	Speciation and Quantification of HAP composition at inlet and outlet	Chapter 27	Yes

<sup>[1]</sup>Expressed as mass of VOC

<sup>[2]</sup>Limitation shall be complied with in accordance with Specific Conditions III.(B)(2)(b) and III.(B)(2)(c).

- (b) A weighted average of the control efficiency for the combined HAPs shall be calculated using the following equation:

$$Efficiency = \left(1 - \frac{\sum C}{\sum U}\right) \times 100$$

Where: Efficiency = the combined HAP control efficiency

C = the controlled (outlet) individual HAP emission rates

U = the uncontrolled (inlet) individual HAP emission rates

- (c) If the HAP limitation cannot be achieved, ADM shall submit a revised HAP BACT analysis and a significant construction permit revision request to the Department within

forty-five (45) days of submitting the test results to the Department. The HAP limitation may be subject to revisions after the opportunity for public comment.

(3) Operational and Monitoring Requirements and Limitations

- (a) Emissions from the emission units identified in Condition III.(B)(1) shall be controlled by pollution control equipment as follows: EU-DM39A and EU-DM39B shall be controlled by DM39. {Chapters 19}
- (b) Operation and maintenance of each scrubber shall be in accordance with the following requirements: {Chapters 19 and 27}
  - (i) The scrubber shall be operated and be controlling emissions at all times when the associated emission units are in operation.
  - (ii) The scrubber shall be equipped with devices capable of continuously monitoring operating parameters including, at a minimum, the scrubbing liquid temperature, scrubbing liquid flow rate, and pressure differential. Operating parameter readings shall be recorded at least once each day the scrubber is in operation.
  - (iii) All monitored operating parameters of the scrubber shall be maintained at the levels recorded during the most recent performance test that demonstrated compliance with the permitted emissions limits. Alternative levels may be used providing the facility can justify that better emissions control is being achieved. Normal operating parameters, or operating parameter ranges, that demonstrate compliance with the permitted emissions limits, with appropriate averaging periods shall be submitted with the source's operating permit application.
  - (iv) Observations at least once each day during daylight hours of scrubber operation shall be conducted to determine whether there are leaks, noise, or other indications that corrective action is necessary. If corrective action is required, it shall occur immediately.

(4) Applicable NSPS, NESHAP, and MACT Requirements:

The Department has not identified any NSPS, NESHAP, or MACT requirements that apply to the emission points or emission units listed in Condition III.(B)(1).

(5) Reporting and Recordkeeping Requirements:

- (a) Records documenting the date, time, temperature and flow rate of scrubbing liquid, and the pressure differential reading for each day the associated scrubber is in operation.
- (b) Records documenting the date, time, observations, and corrective actions taken for each day the associated scrubber is in operation.

**III.(C) Specific Conditions for Fermentation, Distillation, and Nitrogen Stripping**

(1) Permitted Emission Points:

- (a) The source is permitted to construct the emission points and associated emission units identified in the following table:

Emission Point ID#	Required Control Equipment ID# and Description	Emission Unit Description
DM05	DM05: Fermentation RTO	EU-DM05G: Two Slurry Mix Tanks
		EU-DM05H: Two Pre-Cook Tanks
		EU-DM05I: Two Barometric Condensers
		EU-DM05J: Ten Liquefaction Tanks
		EU-DM05K: Two Evaporator Feed Tanks
		EU-DM05L: Two Decanter (Centrifuge) Feed Tanks
		EU-DM05M: Centrate Tank
		EU-DM05N: Six Evaporators
		EU-DM05O: One CDS (30% DS Product) Tank
		EU-DM05P: One Waste Water Transfer Tank
		EU-DM05Q: One Evaporator (Contaminate) Condensate Tank
		EU-DM05R: Seven Temper Tanks
		EU-DM05S: Three Grind Tanks
		EU-DM05T: One Recycle Tank
		EU-DM05U: One Evaporator Product Tank
		EU-DM05V: One Process Water Tank
		EU-DM05F: Nitrogen Stripper Scrubber
		DM05D/E <sup>(1)</sup>
EU-DM05E: Dehydration Equipment		
DM05B/C <sup>(1)</sup>	DM05B/C: CO <sub>2</sub> Scrubber	EU-DM05B: Fermentation Tanks
		EU-DM05C: Two Beerwells

<sup>(1)</sup>Emissions from DM05D/E: Distillation and Dehydration Vent Gas Scrubber and DM05B/C: CO<sub>2</sub> Scrubber are required to be controlled by DM05: Fermentation RTO.

- (b) The source is permitted to construct the following emissions unit identified in the following table at the maximum capacity and using the fuel types listed:

Emission Point ID#	Emission Unit ID# and Description	Maximum Capacity (MMBtu/hr)	Permitted Fuel Types
DM05	DM05: Fermentation RTO	18.0	Natural Gas

(2) Emission Limitations and Testing Requirements:

- (a) Pollutant emission rates from each emission point identified in the table below shall not exceed the permitted limits. Initial performance testing, if required, shall be conducted in accordance with Specific Condition II.(D).

Emission Point ID#	Pollutant	Permitted Limit	Averaging Period	Basis for Permit Limit	Initial Performance Testing Required (Yes/No)
DM05	SO <sub>2</sub>	2.91 lb/hr	3-one hour test runs or test method average	Chapter 19	Yes
	VOC	98% Control Efficiency or 10 ppmv as VOC <sup>[1]</sup>	3-one hour test runs or test method average	Chapter 19	Yes
	VOC	8.4 lb/hr <sup>[2]</sup>	3-one hour test runs or test method average	Chapter 19	Yes

<sup>[1]</sup> Control Efficiency as measured across the RTO (DM05); or concentration as measured at RTO exhaust

<sup>[2]</sup> Expressed as mass of VOC

- (b) Emissions limitations and testing requirements in accordance with NESHAP, Subpart FFFF.

(3) Operational and Monitoring Requirements and Limitations

- (a) Emissions from the emission units identified in Condition III.(C)(1) shall be controlled by pollution control equipment as follows: EU-DM05B and C shall be controlled by DM05B/C, EU-DM05D and E shall be controlled by DM05D/E, and EU-DM05A, DM05B/C, DM05D/E, and EU-DM05F though EU-DM05V shall be controlled by DM05. {Chapters 19 and 27}
- (b) Operation and maintenance of each scrubber shall be in accordance with the following requirements: {Chapters 19 and 27}
- (i) The scrubber shall be operated and be controlling emissions at all times when the associated emission units are in operation.
  - (ii) The scrubber shall be equipped with devices capable of continuously monitoring operating parameters including, at a minimum, the scrubbing liquid temperature, scrubbing liquid flow rate, and pressure differential. Operating parameter readings shall be recorded at least once each day the scrubber is in operation.
  - (iii) All monitored operating parameters of the scrubber shall be maintained at the levels recorded during the most recent performance test that demonstrated compliance with the permitted emissions limits. Alternative levels may be used providing the facility can justify that better emissions control is being achieved. Normal operating parameters, or operating parameter ranges, that demonstrate compliance with the permitted emissions limits, with appropriate averaging periods shall be submitted with the source's operating permit application.

- (iv) Observations at least once each day during daylight hours of scrubber operation shall be conducted to determine whether there are leaks, noise, or other indications that corrective action is necessary. If corrective action is required, it shall occur immediately.
- (c) Operation and maintenance of each RTO shall be in accordance with the following requirements {Chapters 19, 27, and 28}:
  - (i) The RTO shall be operated and be controlling emissions at all times when the associated emission units are in operation.
  - (ii) The RTO shall be equipped with a device capable of continuously monitoring and recording the temperature of the thermal oxidation combustion chamber(s).
  - (iii) All monitored operating parameters of the RTO shall be maintained at the levels recorded during the most recent performance test that demonstrated compliance with the permitted emissions limits. Alternative levels may be used provided the owner or operator can justify that better emissions control is being achieved. Prior to compliance being demonstrated the combustion chamber temperature shall not be operated below 1,400 degrees Fahrenheit. Combustion chamber temperature shall be averaged hourly from a minimum of one cycle of sampling, analyzing, and data recording for each successive fifteen minute period. Normal operating parameters, or operating parameter ranges, that demonstrate compliance with the permitted emissions limits, with appropriate averaging periods shall be submitted with the source’s operating permit application.
  - (iv) Observations at least once each day during daylight hours of RTO operation shall be conducted to determine whether there are visible emissions from the stack, leaks, noise, or other indications that corrective action is necessary. If corrective action is required, it shall occur immediately.

(4) Applicable NSPS, NESHAP, and MACT Requirements:

The following emission units are subject to the NESHAPs listed below: DM05J, DM05K, DM05L, DM05M, DM05N, DM05O, DM05P, DM05Q, DM05R, DM05S, DM05T, DM05U, DM05V, DM05F, DM05D/E, DM05B/C, and DM05A.

Applicable Standard	Title	Rule Citation
NESHAP, Subpart A	General Provisions	Chapter 28, Sec. <u>001.01</u> Requirements Begin at 40 CFR 63.1
NESHAP, Subpart FFFF	Miscellaneous Organic Chemical Manufacturing (MON)	Chapter 28, Sec. <u>001.78</u> Requirements Begin at 40 CFR 63.2430

(5) Reporting and Recordkeeping Requirements:

- (a) Records documenting the date, time, temperature and flow rate of scrubbing liquid, and the pressure differential reading for each day the associated scrubber is in operation.

- (b) Records documenting the date, time, observations, and corrective actions taken for each day the associated scrubber is in operation.
- (c) Records documenting the date, time, and hourly-average temperatures for each day the associated RTO is in operation.
- (d) Records documenting the date, time, observations, and corrective actions taken for each day the associated RTO is in operation.
- (e) Reporting and recordkeeping as required by 40 CFR 63.2430.

**III.(D) Specific Conditions for Organic Liquid Process and Storage Tanks**

- (1) Permitted Emission Points: The source is permitted to construct the storage and process tanks identified in the following table at the capacities and for the storage of the products listed:

<b>Emission Point ID# &amp; Tank ID#</b>	<b>Maximum Storage Capacity (gallons)</b>	<b>Product Stored in Tank</b>
DM40 <sup>[1]</sup>	500,000	Alcohol Reclaim - Denatured Ethanol
DM41	500,000	200 Proof Day Tank #1
DM42	500,000	200 Proof Day Tank #2
DM43 <sup>[1]</sup>	500,000	Alcohol QC Tank - Denatured Ethanol
DM44 <sup>[1]</sup>	2,000,000	Denatured Ethanol Storage #1
DM45 <sup>[1]</sup>	2,000,000	Denatured Ethanol Storage #2
DM46 <sup>[1]</sup>	2,000,000	Denatured Ethanol Storage #3
DM47	8,225	Corrosion Inhibitor
DM48 <sup>[1]</sup>	500,000	Denaturant Storage
DM54	100,000	190 Proof Tank

<sup>[1]</sup> Subject to Subpart Kb

- (2) Emission Limitations and Testing Requirements:

Refer to NSPS, Subpart Kb and NESHAP, Subpart FFFF for any specific emission limitations and testing requirements that may apply to the tanks listed above, as appropriate.

- (3) Operational and Monitoring Requirements and Limitations:

- (a) The corrosion inhibitor tank (DM47) shall be installed with a fixed roof and use submerged loading when transferring corrosion inhibitor into the tank. {Chapters 19 and 27}
- (b) Tanks DM41, DM42, and DM54 shall each be equipped with a fixed roof in combination with an internal floating roof, in accordance with the specifications in 40 CFR 60.112b(a)(1). {Chapters 19 and 27}
- (c) Tanks DM41, DM42, and DM54 are subject to the inspection requirements as described in 40 CFR 60.113b(a). {Chapter 27}
- (d) Tanks DM40, DM43, DM44, DM45, DM46, and DM48 are subject to all applicable requirements of NSPS, Subpart Kb. {Chapter 18}
- (e) The process tanks (DM41, DM42, and DM54) shall not have any direct product loadout capability/operations. All process tanks must loadout to additional processing equipment, other process tanks, or to the storage tanks at the facility.

(4) Applicable NSPS, NESHAP, and MACT Standards:

The following standards apply to DM40, DM43, DM44, DM45, DM46, and DM48:

<b>Applicable Standard</b>	<b>Title</b>	<b>Rule Citation</b>
NSPS, Subpart A	General Provisions	Chapter 18, Sec. <u>001.01</u> 40 CFR 60.1
NSPS, Subpart Kb	Volatile Organic Liquid Storage Vessels (Including Liquid Storage Vessels)	Chapter 18, Sec. <u>001.62</u> 40 CFR 60.110b

The following standards apply to DM40, DM41, DM42, DM43, DM44, DM45, DM46, DM47, DM48, and DM54:

<b>Applicable Standard</b>	<b>Title</b>	<b>Rule Citation</b>
NESHAP, Subpart A	General Provisions	Chapter 28, Sec. <u>001.01</u> Requirements Begin at 40 CFR 63.1
NESHAP, Subpart FFFF	Miscellaneous Organic Chemical Manufacturing (MON)	Chapter 28, Sec. <u>001.78</u> Requirements Begin at 40 CFR 63.2430

(5) Reporting and Recordkeeping Requirements:

(a) The following apply to EU's DM40, DM43, DM44, DM45, DM46, and DM48:

- (i) Notifications and record keeping as required by 40 CFR 60.7.
- (ii) Reporting and recordkeeping as required by 40 CFR 60.115b.

(b) The following requirements apply to DM41, DM42, and DM54:

Records of inspections conducted in accordance with Condition III.(D)(3)(c).

(c) The following apply to EU's DM40, DM41, DM42, DM43, DM44, DM45, DM46, DM47, DM48, and DM54:

Reporting and recordkeeping as required by 40 CFR 63.2430.

**III.(E) Specific Conditions for Ethanol Loadout**

- (1) Permitted Emission Points: The source is permitted to construct the emission points and associated emission units identified in the following table at the capacity and using the fuel types listed:

Emission Point ID#	Control Equipment ID# and Description	Emission Unit (EU) ID# and Description	Maximum Capacity	Permitted Fuel Type
DM09A	DM09A: Ethanol Loadout Flare #1	EU-DM09: Rail Loadout	720,000 gallons/hour loadout	Denatured Ethanol Vapors and Natural Gas
DM09B	DM09B: Ethanol Loadout Flare #2			

- (2) Emission Limitations and Testing Requirements:

Refer to NESHAP, Subpart FFFF for any emission limitations and testing requirements that may apply to DM09A and DM09B.

- (3) Operational and Monitoring Requirements and Limitations:

- (a) The source shall use submerged or bottom loading when transferring liquid product from the storage tanks to tanker trucks and railcars. {Chapters 19 and 27}
- (b) Truck and rail loadout of liquid product from EU-DM09 shall be controlled by a closed vapor recovery system with an enclosed flare at all times liquid product loadout is occurring. {Chapters 19 and 27}
- (c) When ethanol loadout is occurring, a flame shall be present at the flare. The facility must install an appropriate safety device or flame monitoring system to ensure that truck and rail loadout cannot occur without the presence of a flame. {Chapters 19 and 27}

- (4) Applicable NSPS, NESHAP, and MACT Requirements:

The following standards apply to DM09:

Applicable Standard	Title	Rule Citation
NESHAP, Subpart A	General Provisions	Chapter 28, Sec. 001.01 Requirements Begin at 40 CFR 63.1
NESHAP, Subpart FFFF	Miscellaneous Organic Chemical Manufacturing (MON)	Chapter 28, Sec. 001.78 Requirements Begin at 40 CFR 63.2430

- (5) Reporting and Recordkeeping Requirements:

- (a) Reporting and recordkeeping as required by 40 CFR 63.2430.

**III.(F) Specific Conditions for Feed Production**

(1) Permitted Emission Points:

- (a) The source is permitted to construct the emission points and associated emission units identified in the following table:

<b>Emission Point ID#</b>	<b>Required Control Equipment ID# and Description</b>	<b>Emission Unit ID# and Description</b>
DM07A	DM07A: Natural Gas Combustor #1	EU-DM07A: DDGS Dryer #1
DM07B	DM07B: Natural Gas Combustor #2	EU-DM07B: DDGS Dryer #2
DM07C	DM07C: Natural Gas Combustor #3	EU-DM07C: DDGS Dryer #3
DM07D	DM07D: Natural Gas Combustor #4	EU-DM07D: DDGS Dryer #4
DM07E	DM07E: Natural Gas Combustor #5	EU-DM07E: DDGS Dryer #5
DM07F	DM07F: Natural Gas Combustor #6	EU-DM07F: DDGS Dryer #6
DM07G	DM07G: Natural Gas Combustor #7	EU-DM07G: DDGS Dryer #7
DM07H	DM07H: Natural Gas Combustor #8	EU-DM07H: DDGS Dryer #8
DM08A	DM08A: DDGS Cooling Baghouse #1	EU-DM08A: DDGS Cooler #1
DM08B	DM08B: DDGS Cooling Baghouse #2	EU-DM08B: DDGS Cooler #2
DM08C	DM08C: DDGS Cooling Baghouse #3	EU-DM08C: DDGS Cooler #3
DM10	DM10: Feed/Germ Conveying Baghouse	EU-DM10: Feed/Germ Conveyor
DM11	DM11: Feed/Germ Storage Baghouse	EU-DM11: Feed/Germ Storage
DM12	DM12: Feed/Germ Loadout Baghouse	EU-DM12: Feed/Germ Loadout

- (b) The source is permitted to construct the following emission units identified in the following table at the capacities and using the fuel types listed:

<b>Emission Point ID#</b>	<b>Emission Unit ID# and Description</b>	<b>Capacity (MMBtu/hr)</b>	<b>Permitted Fuel Types</b>
DM07A	DM07A: Natural Gas Combustor #1	93.7	Natural Gas
DM07B	DM07B: Natural Gas Combustor #2	93.7	Natural Gas
DM07C	DM07C: Natural Gas Combustor #3	93.7	Natural Gas
DM07D	DM07D: Natural Gas Combustor #4	93.7	Natural Gas
DM07E	DM07E: Natural Gas Combustor #5	93.7	Natural Gas
DM07F	DM07F: Natural Gas Combustor #6	93.7	Natural Gas
DM07G	DM07G: Natural Gas Combustor #7	93.7	Natural Gas
DM07H	DM07H: Natural Gas Combustor #8	93.7	Natural Gas

(2) Emission Limitations and Testing Requirements:

Pollutant emission rates from each emission point identified in the table below shall not exceed the permitted limits. Initial performance testing, if required, shall be conducted in accordance with Specific Condition II.(D).

Emission Point ID#	Pollutant	Permitted Limits per Emission Point	Averaging Period	Basis for Permit Limit	Initial Performance Testing Required (Yes/No)
DM07A DM07B DM07C DM07D DM07E DM07F DM07G DM07H	PM/PM <sub>10</sub>	2.80 lb/hr	3-hour or test method average	Chapter 19	Yes
	SO <sub>x</sub>	0.37 lb/hr	3-hour or test method average	Chapter 19	Yes
	NO <sub>x</sub>	0.04 lb/MMBtu	3-hour or test method average	Chapter 19	Yes
	CO	0.11 lb/MMBtu	3-hour or test method average	Chapter 19	Yes
	VOC	5.16 lb/hr	3-hour or test method average	Chapter 19	Yes
	HAP	N/A	Speciation and Quantification of HAP composition at outlet	Chapter 27	Yes
	DM08A DM08B DM08C	PM/PM <sub>10</sub>	0.004 gr/dscf	3-hour or test method average	Chapter 19
SO <sub>x</sub>		4.49 lb/hr	3-hour or test method average	Chapter 19	Yes
VOC		12.89 lb/hr	3-hour or test method average	Chapter 19	Yes
HAP		N/A	Speciation and Quantification of HAP composition at outlet	Chapter 27	Yes
DM10 DM11 DM12	PM/PM <sub>10</sub>	0.004 gr/dscf	3-hour or test method average	Chapter 19	Yes
	HAP	N/A	3-hour or test method average	Chapter 27	Yes
DM10	VOC	1.43 lb/hr	3-hour or test method average	Chapter 19	Yes
DM11	VOC	1.15 lb/hr	3-hour or test method average	Chapter 19	Yes
DM12	VOC	1.43 lb/hr	3-hour or test method average	Chapter 19	Yes

(3) Operational and Monitoring Requirements and Limitations:

- (a) Emissions from EU-DM07A shall be controlled by DM07A, EU-DM07B shall be controlled by DM07B, EU-DM07C shall be controlled by DM07C, EU-DM07D shall be controlled by DM07D, EU-DM07E shall be controlled by DM07E, EU-DM07F shall be controlled by DM07F, EU-DM07G shall be controlled by DM07G, and EU-DM07H shall be controlled by DM07H. The emissions from EU-DM08A shall be controlled by DM08A, EU-DM08B shall be controlled by DM08B, EU-DM08C shall be controlled by DM08C, EU-DM10 shall be controlled by DM10, EU-DM11 shall be controlled by DM11, and EU-DM12 shall be controlled by DM12.

- (b) Operation and maintenance of each combustor (DM07A, DM07B, DM07C, DM07D, DM07E, DM07F, DM07G, and DM07H) shall be in accordance with the following requirements: {Chapter 19}
- (1) The combustor shall be operated and be controlling emissions at all times when the associated emission units are in operation.
  - (2) The combustor shall be equipped with a device capable of continuously monitoring and recording the temperature of the thermal oxidation combustion chamber(s).
  - (3) All monitored operating parameters of the combustor shall be maintained at the levels recorded during the most recent performance test that demonstrated compliance with the permitted emissions limits. Alternative levels may be used provided the owner or operator can justify that better emissions control is being achieved. Prior to compliance being demonstrated, the combustion chamber temperature shall not be operated below 1,500 degrees Fahrenheit. Combustion chamber temperature shall be averaged hourly from a minimum of one cycle of sampling, analyzing, and data recording for each successive fifteen minute period. Normal operating parameters, or operating parameter ranges, that demonstrate compliance with the permitted emissions limits, with appropriate averaging periods shall be submitted with the source's operating permit application.
  - (4) Observations at least once each day during daylight hours of combustor operation shall be conducted to determine whether there are visible emissions from the stack, leaks, noise, or other indications that corrective action is necessary. If corrective action is required, it shall occur immediately.
- (c) Operation and maintenance of each baghouse shall be in accordance with the following requirements: {Chapter 19}
- (1) The baghouse shall be operated and be controlling emissions at all times when the associated emission units are in operation.
  - (2) The baghouse shall be equipped with an operational pressure differential indicator. Pressure differential indicator readings shall be recorded at least once each day that the associated baghouse is operating.
  - (3) Baghouse filter bags are to be inspected and/or replaced as often as necessary to ensure proper operation or more frequently as indicated by pressure differential indicator readings or other indication of bag failure.
  - (4) Observations at least once each day during daylight hours of baghouse operation shall be conducted to determine whether there are visible emissions from the stack, leaks, noise, or other indications that corrective action is needed. If corrective action is required, it shall occur immediately.
  - (5) The owner or operator shall maintain an on-site inventory of spare bags of each type used to ensure rapid replacement in the event of bag failure.

(4) Applicable NSPS, NESHAP, and MACT Requirements:

The following standards apply to the Natural Gas Combustors (DM07A, DM07B, DM07C, DM07D, DM07E, DM07F, DM07G, and DM07H):

<b>Applicable Standard</b>	<b>Title</b>	<b>Rule Citation</b>
NSPS, Subpart A	General Provisions	Chapter 18, Sec. <u>001.01</u> 40 CFR 60.1
NSPS, Subpart Dc	Small Industrial, Commercial, Institutional Steam Generation Units	Chapter 18, Sec. <u>001.52</u> 40 CFR 60.40c

(5) Reporting and Recordkeeping Requirements:

- (a) Records documenting the date, time, and hourly-average temperatures for each day the associated combustor is in operation.
- (b) Records documenting the date, time, observations, and corrective actions taken for each day the associated combustor is in operation.
- (c) Records documenting the date, time, and pressure differential reading for each day the associated baghouse is in operation.
- (d) Filter replacement records including the date the filter replacement occurred and the type of filter installed.
- (e) Records documenting the date, time, observations, and corrective actions taken for each day the associated baghouse is in operation.
- (f) Notifications and record keeping as required by 40 CFR 60.7
- (g) Reporting and recordkeeping as required by 40 CFR 60.48c

**III.(G) Specific Conditions for Emergency Equipment**

- (1) Permitted Emission Points: The source is permitted to construct the emission points and associated emission units identified in the following table at the capacities and using the fuel types listed:

Emission Point ID#	Emission Unit ID# and Description	Capacity (HP)	Permitted Fuel Type
DM50A	EU-DM50A: Fire Water Pump Engine #1	460	Diesel Fuel
DM50B	EU-DM50B: Fire Water Pump Engine #2	460	Diesel Fuel
DM50C	EU-DM50C: Fire Water Pump Engine #3	460	Diesel Fuel
DM50D	EU-DM50D: Fire Water Pump Engine #4	460	Diesel Fuel
DM51	EU-DM51: Emergency Generator #1	134	Diesel Fuel
DM52	EU-DM52: Emergency Generator #2	201	Diesel Fuel
DM53A	EU-DM53A: Emergency Generator #3	804	Diesel Fuel
DM53B	EU-DM53B: Emergency Generator #4	804	Diesel Fuel

- (2) Emission Limitations and Testing Requirements:

Refer to NSPS, Subpart IIII and NESHAP, Subpart ZZZZ for emission limitations and testing requirements that apply to the emergency fire water pump engines and generators.

- (3) Operational and Monitoring Requirements and Limitations:

- (a) Emission Units DM50A, DM50B, DM50C, DM50D, DM51, DM52, DM53A, and DM53B shall each be limited to 500 operating hours per any period of twelve (12) consecutive calendar months. At no time during the first eleven (11) months after start-up shall each engine's total operating hours exceed 500 hours. {Chapter 19}
- (b) Each emergency fire water pump engine and emergency generator shall be equipped with a non-resettable hour meter to record the operating hours.
- (c) The sulfur content of the diesel fuel combusted in the emergency equipment shall not exceed 0.05% by weight. {Chapters 18, 19, and 24}

- (4) Applicable NSPS, NESHAP, and MACT Requirements:

The following standards may apply to the emergency fire water pump engines and emergency generators:

Applicable Standard	Title	Rule Citation
NSPS, Subpart A	General Provisions	Chapter 18, Sec. <u>001.01</u> 40 CFR 60.1
NSPS, Subpart IIII	Stationary Compression Ignition Internal Combustion Engines	Chapter 18, Sec. <u>001.76</u> 40 CFR 60.4200
NESHAP, Subpart A	General Provisions	Chapter 28, Sec. 001.01 40 CFR 63.1

Applicable Standard	Title	Rule Citation
NESHAP, Subpart ZZZZ	Stationary Reciprocating Internal Combustion Engines	Chapter 28, Sec. 001.88 40 CFR 63.6580

(5) Reporting and Recordkeeping Requirements:

- (a) Fuel receipts for the diesel fuel from the supplier for the fuel combusted in the fire pump engines and generators. Fuel receipts shall state the sulfur content, by weight, in the distillate fuel.
- (b) Hours of operation for the emergency generator and the emergency firewater pump engine for each calendar month and for each period of 12 consecutive calendar months.
- (c) Notifications and recordkeeping as required by 40 CFR 60.7.
- (d) Recordkeeping as required by 40 CFR 60.4214.
- (e) Initial notification requirements of 40 CFR 63.6645(d) and reporting in accordance with 40 CFR 63.6640(e) and 40 CFR 63.6645(d), as applicable.

**III.(H) Specific Conditions for Equipment Leaks (DM91):**

(1) Permitted Emission Points:

Each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, flange, or other connector in VOC service and any device or system considered an “affected facility” by NSPS, Subpart VV and/or NESHAP, Subpart FFFF located throughout the ethanol plant.

(2) Emission Limitations and Testing Requirements:

Emission limitations and testing requirements as established by 40 CFR 60 Subpart VV and 40 CFR 63 Subpart FFFF.

(3) Operational and Monitoring Requirements and Limitations:

Operational and Monitoring Requirements and Limitations as established by 40 CFR 60 Subpart VV and 40 CFR 63 Subpart FFFF.

(4) Applicable NSPS, NESHAP, and MACT Standards

<b>Applicable Standard</b>	<b>Title</b>	<b>Rule Citation</b>
NSPS, Subpart A	General Provisions	Chapter 18, Sec. <u>001.01</u> 40 CFR 60.1
NSPS, Subpart VV	Equipment Leaks in the Synthetic Organic Chemicals Manufacturing Industry	Chapter 18, Sec. <u>001.14</u> 40 CFR 60.480
NESHAP, Subpart A	General Provisions	Chapter 28, Sec. <u>001.01</u> Requirements Begin at 40 CFR 63.1
NESHAP, Subpart FFFF	Miscellaneous Organic Chemical Manufacturing (MON)	Chapter 28, Sec. <u>001.78</u> Requirements Begin at 40 CFR 63.2430

(5) Reporting and Recordkeeping Requirements:

- (a) Notifications and record keeping as required by 40 CFR 60.7.
- (b) Record keeping and reporting as required by 40 CFR 60.486 and 40 CFR 60.487.
- (c) Reporting and recordkeeping as required by 40 CFR 63.2430.
- (d) Records including the date in which leak detection testing occurred, which valves, pumps, seals, open-ended lines, flanges, connectors, etc. were tested, and name of the individual who conducted the testing.
- (e) The owner or operator shall submit a semi-annual leak detection and repair report every six (6) calendar months to the Department. The initial semi-annual report shall be submitted beginning six (6) months after the initial startup date [60.487(a)]. Subsequent reports for each six (6) calendar month reporting period shall be submitted within 45 days

following June 30 and December 31 of each year. Each report must be certified by a responsible official and include the following items:

- (i) Date and time testing occurred;
- (ii) Name of individual who conducted the testing; and
- (iii) Additional information required to be reported to the Department in accordance with 40 CFR 60.480.

**III.(I) Specific Conditions for the Cooling Towers (FS-05)**

- (1) Permitted Emission Points: The source is permitted to construct the emission points and associated emission unit identified in the following table with the number of cooling tower cells and at the circulation rate listed:

<b>Emission Point ID#</b>	<b>Emission Unit Description</b>	<b>Number of Cooling Tower Cells</b>	<b>Maximum Circulation Rate (gal/hr)</b>
DM13 thru DM20, DM20A, DM20B, DM20C	Dry Mill Ethanol Cooling Tower	11	9,900,000

- (2) Emission Limitations and Testing Requirements:

The cooling towers identified above are not subject to any emissions limitations. Testing shall be conducted to ensure compliance with the TDS limitation established and is discussed below.

- (3) Operational and Monitoring Requirements and Limitations:

- (a) Drift loss from each cooling tower listed in Condition III.(I)(1) shall be limited to 0.0005 percent. Verification of drift loss shall be by manufacturer's guarantee. Manufacturer's drift loss guarantee shall be kept on site and readily available to Department representatives, upon request, for the life of the unit. {Chapter 19}
- (b) TDS concentration of the cooling water in each cooling tower pool of the Dry Mill Ethanol Cooling Tower shall not exceed 3,000 ppm. A representative TDS sample shall be collected and tested from each cooling tower pool a minimum of once per calendar month. The test method used to determine TDS concentration shall be in accordance with an EPA approved method and be documented. {Chapter 19}

- (4) Applicable NSPS, NESHAP, and MACT Requirements:

<b>Applicable Standard</b>	<b>Title</b>	<b>Rule Citation</b>
NESHAP, Subpart A	General Provisions	Chapter 28, Sec. <u>001.01</u> Requirements Begin at 40 CFR 63.1
NESHAP, Subpart FFFF	Miscellaneous Organic Chemical Manufacturing (MON)	Chapter 28, Sec. <u>001.78</u> Requirements Begin at 40 CFR 63.2430

- (5) Reporting and Recordkeeping Requirements:

- (a) TDS concentration in cooling water for each pool for each sampling event and test method used.
- (b) Reporting and recordkeeping as required by 40 CFR 63.2430.

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**III.(J) Specific Conditions for Haul Roads (DM90)**

- (1) Permitted Emission Points: All on-site haul roads with production-related truck traffic shall be paved. The paved haul roads shall comply with the following conditions. {Chapters 19, 20, and 32}
- (2) Emission Limitations and Testing Requirements:
  - (a) The haul road silt loading shall not exceed 3.0 g/m<sup>2</sup>. {Chapter 19}
- (3) Operational and Monitoring Requirements and Limitations:
  - (a) The owner or operator shall develop, maintain, and implement a Fugitive Dust Control Plan (FDCP) to control emissions from haul roads to comply with General Condition I.(J) and Condition III.(J)(2)(a). At a minimum, the requirements of the plan shall include that all paved haul roads shall be cleaned, using a vacuum sweeper, a minimum of three (3) times per week unless weather events are deemed not to warrant such cleaning.
  - (b) For each day of operation, the owner or operator shall conduct a survey of the plant property and haul roads to determine if visible fugitive emissions are being generated and leaving plant property. Implementation of fugitive dust control shall be taken upon observation of visible fugitive emissions leaving plant property or more frequency in accordance with the FDCP. Documentation of all corrective actions and daily surveys shall be maintained in a log that shall accompany the FDCP.
- (4) Applicable NSPS, NESHAP, and MACT Requirements:

At this time the Department has not identified any NSPS, NESHAP, or MACT requirements that apply to the emission points or emission units listed in Condition III.(J)(1).
- (5) Reporting and Recordkeeping Requirements:
  - (a) The FDCP shall be kept onsite and a copy shall be submitted to the NDEQ within thirty (30) days after initial startup of operations.
  - (b) Records documenting use of fugitive dust control measures on haul roads.
  - (c) Records of haul road visible emissions checks taken daily during operation and a description of corrective action taken, if needed.
  - (d) Records documenting when silt load testing was completed and the results of each testing.

Appendix B  
Columbus, NE – Cogen Air Permit



**Dave Heineman**  
Governor

## STATE OF NEBRASKA

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### CONSTRUCTION PERMIT

PERMIT NUMBER: CPM02-0006

**PREVENTION OF SIGNIFICANT DETERIORATION (PSD)  
PERMIT TO MODIFY AN  
AIR CONTAMINANT SOURCE  
IS HEREBY ISSUED TO:**

Archer Daniels Midland Company (ADM)  
3000 East 8<sup>th</sup> Street  
Columbus, Nebraska 68601-9073

#### FOR THE SPECIFIC MODIFICATION OF:

A Wet Corn Milling and Ethanol Production Facility

#### TO BE LOCATED AT

3000 East 8th Street  
Columbus, Nebraska 68601-9073

Pursuant to Chapter 14 of the Nebraska Air Quality Regulations, the public has been notified by prominent advertisement of this proposed modification of an air contaminant source and the thirty (30) day period allowed for comments has elapsed. This Construction Permit approves the proposed construction of two new coal-fired boilers and support equipment, one new natural gas-fired boiler, and modification of the existing gluten flash dryer #2 and the fluid bed germ dryer. In addition, this Construction Permit approves the construction of new control equipment for several existing sources, places new and/or revised emission limits on existing equipment, and supersedes all previous construction permits issued for this source. The operations covered by this permit consists of a facility that manufactures ethanol (primary SIC 2046, secondary SIC 2869), starches, high fructose corn syrup, and animal feed products utilizing the wet milling process.

This permit may contain abbreviations and symbols of units of measure, which are defined in 40 CFR Part 60.3. Other abbreviations may include, but are not limited to, the following: Ammonia (NH<sub>3</sub>), Best Available Control Technology (BACT), Boiler Operating Day (BOD), Circulating Fluidized Bed Boiler (CFB Boiler), Carbon Monoxide (CO), Chemical Abstract Service Number (CAS #), Code of Federal Regulations (CFR), Compilation of Air Pollutant Emission Factors, Volume I, Stationary Point and Area Sources (AP-42), Construction Permit (CP), Continuous Emissions Monitor System (CEMs), Continuous Opacity Monitoring System (COMS), Factor Information and Retrieval System (FIRE), Hazardous Air Pollutant (HAP), Hydrochloric acid (HCl), Hydrofluoric acid (HF), Hydrogen Sulfide (H<sub>2</sub>S), Lead Compounds (Pb), Lowest Achievable Emission Rate (LAER), Maximum Achievable Control Technology (MACT), Mechanical Recompression (MR), Mercury Compounds (Hg), Million British Thermal Units (MMBtu), National Ambient Air Quality Standards (NAAQS), New Source Performance

Standards (NSPS), Nitrogen Oxides (NO<sub>x</sub>), Office of Management and Budget (OMB), Operating Permit (OP), Particulate Matter (PM), Particulate Matter less than or equal to 10 micrometers (PM<sub>10</sub>), Parts per million (ppm), Parts per million dry volume (ppmdv) Pounds per Hour (lbs/hr), Prevention of Significant Deterioration (PSD), Rotary Vacuum Filter (RVF), Selective Non-catalytic Reduction (SNCR), Stack/Vent (SV), Sulfur Dioxide (SO<sub>2</sub>), Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>), Total Dissolved Solids (TDS), Total Reduced Sulfur (TRS), Total Selected Metal (TSM), Volatile Organic Compounds (VOC).

This permit is issued with the following conditions under the authority of Title 129 - Nebraska Air Quality Regulations as amended March 14, 2006:

### General Conditions

- I. This permit is not transferable to another source or location. (Title 129, Chapter 17)
- II. Holding of this permit does not relieve the owner/operator of the source from the responsibility to comply with all applicable portions of the Nebraska Air Quality Regulations and any other requirements under local, State, or Federal law. Any permit noncompliance shall constitute a violation of the Nebraska Environmental Protection Act and the Federal Clean Air Act, and is grounds for enforcement action or permit revocation. {Title 129, Chapter 41 & Chapter 17, Section 011}
- III. Application for review of plans or advice furnished by the Director will not relieve the source of legal compliance with any provision of these regulations, or prevent the Director from enforcing or implementing any provision of these regulations. {Title 129, Chapter 37}
- IV. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. If the source wishes to make changes at the facility that will result in change(s) to values, specifications, and/or locations of emission points that were indicated in the permit application (or other supplemental information provided by the applicant and reviewed by the Department in issuance of this permit), the source must receive approval from the Department before the change(s) can be made. In addition, any modification which may result in an adverse change to the air quality impacts predicted by atmospheric dispersion modeling (such as changes in stack parameters or increases in emission rates, potential emissions, or actual emissions) shall have prior approval from the Department. The source shall provide all necessary information to verify that there are no substantive changes affecting the basis upon which this permit was issued. Information may include, but not be limited to, additional engineering, modeling and ambient air quality studies. {Title 129, Chapter 17, Section 006, 007, & 008}
- V. Approval to construct, reconstruct and/or modify the source will become invalid if a continuous program of construction is not commenced within 18 months after the date of issuance of the construction permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable period of time. {Title 129, Chapter 17, Section 012}
- VI. The owner/operator of the source shall **provide** a notification to the Department of the date of construction, reconstruction or modification commenced, postmarked no later than 30 days after such date, and of the actual date of initial startup of operation, postmarked within 15 days after such date. {Title 129, Chapter 17, Section 012}

- VII. The permittee shall allow the Department, EPA or an authorized representative, upon presentation of credentials to: {Neb. Rev. Statute §81-1504}
- (A) Enter upon the permittee's premises at reasonable times where a source subject to this permit is located, emissions-related activity is conducted or records are kept, for the purpose of ensuring compliance with the permit or applicable requirements;
  - (B) Have access to and copy, at reasonable times, any records, for the purpose of ensuring compliance with the permit or applicable requirements;
  - (C) Inspect at reasonable times any facilities, pollution control equipment, including monitoring and air pollution control equipment, practices, or operations, for the purpose of ensuring compliance with the permit or applicable requirements;
  - (D) Sample or monitor at reasonable times substances or parameters for the purpose of ensuring compliance with the permit or applicable requirements.
- VIII. When requested by the Department, the permittee shall submit completed emission inventory forms for the preceding year to the Department by March 31 of each year. {Title 129, Chapter 6}
- IX. Open fires are prohibited except as allowed by Title 129, Chapter 30.
- X. Particulate Matter – General Requirements: {Title 129, Chapter 32}
- (A) The permittee shall not cause or permit the handling, transporting or storage of any material in a manner, which allows particulate matter to become airborne in such quantities and concentrations that it remains visible in the ambient air beyond the property line.
  - (B) The permittee shall not cause or permit the construction, use, repair or demolition of a building, its appurtenances, a road, a driveway, or an open area without applying all reasonable measures to prevent particulate matter from becoming airborne and remaining visible beyond the property line. Such measures include, but not limited to, paving or frequent cleaning of roads, driveways and parking lots; application of dust-free surfaces; application of water; and planting and maintenance of vegetative ground cover.
- XI. If and when the Director declares an air pollution episode as defined in Title 129, Chapter 38, Sections 003.01B, 003.01C, or 003.01D, the source shall immediately take all required actions listed in Title 129, Appendix I until the Director declares the air pollution episode terminated.
- XII. This permit may be revised (reopened and reissued) or revoked for cause in accordance with Title 129 and Title 115, Rules of Practice and Procedure. Conditions under which this permit will be revised or revoked for cause, include but are not limited to: {Title 129, Chapter 15, Section 006}
- (A) A determination by the Director, or the Administrator of EPA that:
    - (1) the permit must be revised to ensure compliance with the applicable requirements;

- (2) the permit contains a material mistake or that inaccurate statements were made in the emissions standards or other terms or conditions of the permit.
- (B) The existence at the facility of unresolved noncompliance with applicable requirements or a term or condition of the permit, and refusal of the permittee to agree to an enforceable schedule of compliance to resolve the noncompliance;
- (C) The submittal by the permittee of false, incomplete, or misleading information to the Department or EPA;
- (D) A determination by the Director that the permitted facility or activity endangers human health or the environment and that the danger cannot be removed by a revision of the permit; or
- (E) The failure of the permittee to pay a penalty owed pursuant to court order, stipulation and agreement, or order issued by the Administrator of the EPA.

**Specific Conditions**

XIII. Specific terms and conditions of this permit:

- (A) The following conditions apply to: GRAIN HANDLING AND PROCESSING OPERATIONS:
- (1) The grain handling and processing equipment shall consist of the emission points and control devices presented in Table 1:

**Table 1. Grain Handling and Processing Equipment**

Emission Unit ID	SV #	Equipment Description	Add-on control device
EU1-1	1	Corn Receiving (East Truck Unloading Pits #1 and #2)	Baghouse
EU1-2	2	Corn Receiving (West Truck Unloading Pits #3 and #4)	Baghouse
EU2-3	3	Corn Cleaner/Fines Bin	Baghouse
EU2-4	4	Corn Cleaner	Baghouse
EU2-42	42	Corn Fines Transfer	Baghouse
EU1-54	54	Corn Silo #1	Baghouse
EU1-55	55	Corn Silo #2	Baghouse
EU1-56	56	Corn Silo #3	Baghouse
EU1-57	57	Corn Silo #4	Baghouse
EU1-58	58	Corn Silo #5	Baghouse
EU1-59	59	Corn Silo #6	Baghouse
EU1-60	60	Corn Silo #7	Baghouse
EU1-61	61	Corn Silo #8	Baghouse
EU14-71	71	Rail Corn Receiving, Storage, and Handling	Baghouse

Emission Unit ID	SV #	Equipment Description	Add-on control device
EU14-72	72	Corn Storage Bin 9A	Baghouse
EU14-73	73	Corn Storage Bin 9B	Baghouse
EU14-74	74	Corn Storage Bin 10A	Baghouse
EU14-75	75	Corn Storage Bin 10B	Baghouse
EU14-76	76	Corn Storage Bin 11A	Baghouse
EU14-77	77	Corn Storage Bin 11B	Baghouse
EU14-78	78	Corn Storage Bin 12A	Baghouse
EU14-79	79	Corn Storage Bin 12B	Baghouse
EU14-80	80	Corn Storage Bin 13A	Baghouse
EU14-81	81	Corn Storage Bin 13B	Baghouse
EU14-82	82	Corn Storage Bin 14A	Baghouse
EU14-83	83	Corn Storage Bin 14B	Baghouse
EU14-84	84	Corn Storage Bin 15A	Baghouse
EU14-85	85	Corn Storage Bin 15B	Baghouse
EU14-86	86	Corn Storage Bin 16A	Baghouse
EU14-87	87	Corn Storage Bin 16B	Baghouse
EU14-88	88	Corn Storage Bin 17A	Baghouse
EU14-89	89	Corn Storage Bin 17B	Baghouse
EU14-105	105	Rail Corn Silo #1	Baghouse
EU14-106	106	Rail Corn Silo #2	Baghouse

- (2) The grain handling and processing equipment shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the grain handling and processing equipment shall be kept on site and readily available to Department representatives. {Title 129, Chapters 19 and 20}
- (3) The operation of each dry dust collector (baghouse) shall be in accordance with the following requirements: {Title 129, Chapters 19 and 20}
- (a) The dry dust collectors shall be operated whenever the associated emission units are in operation.
- (b) The dry dust collectors shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the dry dust collectors shall be kept on site and readily available to Department representatives.
- (c) The dry dust collectors for EU1-1, EU1-2, EU2-3, EU2-4, EU2-42, EU14-71, EU14-105, and EU14-106 shall be equipped with an operational pressure differential indicator. The pressure differential indicator readings shall be recorded at least once each day that the associated dry dust collector is operating. The pressure indicator shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the pressure

differential indicator shall be kept on site and readily available to Department representatives.

- (d) Dry dust collector filter bags/cartridges are to be inspected and/or replaced according to the operation and maintenance manual or more frequently as indicated by pressure differential indicator readings or other indication of unit failure.
  - (e) Routine observations (at least once each day during daylight hours of dry dust collector operation) shall be conducted for dry dust collectors stacks SV# 1 – 4, 42, 71, 105 and 106 to determine whether there are visible emissions from the stack, leaks, noise, atypical pressure differential readings, or other indications, which may necessitate corrective action. Corrective action shall be taken immediately if necessary. For the bin vent dust collector stacks (SV# 54-61 and 72-89) routine observations (at least once weekly) shall be conducted and recorded to determine whether there are excessive visible emissions from the vents, or other indications of poor performance (e.g. material build-up on vents) requiring corrective action. Corrective action shall be taken immediately if necessary.
  - (f) Collected waste material from the dry dust collectors shall be handled, transported, and stored in a manner that ensures compliance with Condition X.
  - (g) The source shall maintain on-site an inventory of spare bags/cartridges of each type used to ensure rapid replacement in the event of bag/cartridge failure.
- (4) The PM and PM<sub>10</sub> emissions from the grain handling and processing baghouses shall not exceed the emission limits in Table 2 (3-hour or test method average). {Title 129, Chapters 4, 19, and 20}

**Table 2. Grain Handling and Processing Emission Limits**

SV #	Equipment Description	PM/PM <sub>10</sub> limitation (lbs/hr)
1	Corn Receiving (East Truck Unloading Pits #1 and #2)	0.52
2	Corn Receiving (West Truck Unloading Pits #3 and #4)	0.52
3	Corn Cleaner/Fines Bin	0.10
4	Corn Cleaner	0.52
42	Corn Fines Transfer	0.04
54	Corn Silo #1	0.16
55	Corn Silo #2	0.16
56	Corn Silo #3	0.16
57	Corn Silo #4	0.21
58	Corn Silo #5	0.21
59	Corn Silo #6	0.21

SV #	Equipment Description	PM/PM <sub>10</sub> limitation (lbs/hr)
60	Corn Silo #7	0.21
61	Corn Silo #8	0.21
71	Rail Corn Receiving, Storage, and Handling	0.82
72	Corn Storage Bin 9A	0.02
73	Corn Storage Bin 9B	0.02
74	Corn Storage Bin 10A	0.02
75	Corn Storage Bin 10B	0.02
76	Corn Storage Bin 11A	0.02
77	Corn Storage Bin 11B	0.02
78	Corn Storage Bin 12A	0.02
79	Corn Storage Bin 12B	0.02
80	Corn Storage Bin 13A	0.02
81	Corn Storage Bin 13B	0.02
82	Corn Storage Bin 14A	0.02
83	Corn Storage Bin 14B	0.02
84	Corn Storage Bin 15A	0.02
85	Corn Storage Bin 15B	0.02
86	Corn Storage Bin 16A	0.02
87	Corn Storage Bin 16B	0.02
88	Corn Storage Bin 17A	0.02
89	Corn Storage Bin 17B	0.02
105	Rail Corn Silo #1	0.39
106	Rail Corn Silo #2	0.90

- (5) The New Source Performance Standards for Grain Elevators, Subpart DD {Title 129, Chapter 18, Section 001.19} apply to the rail corn receiving, storage, and handling equipment (EU14-71) and the corn cleaner (EU2-4). These requirements include but are not limited to the following: {40 CFR, Part 60, Subpart DD}
- (a) Any grain handling operations other than grain dryers shall not emit particulate matter in excess of 0.023 g/dscm (0.01 gr/dscf) and shall not exhibit greater than 0% opacity.
  - (b) Fugitive particulate matter emissions from railcar unloading shall not exhibit greater than 5% opacity.
  - (c) Testing to determine the compliance with the limitations in Conditions XIII.(A)(5)(a) and (b) shall be in accordance with 40 CFR 60.303.
- (6) In order to demonstrate compliance with Condition XIII.(A)(4), the source shall conduct performance tests as specified in Table 3. The performance test shall be conducted in accordance with Condition XIII.(V). {Title 129, Chapter 34}

**Table 3. Grain Handling and Processing Test Requirements**

SV #	Equipment Description	PM/PM <sub>10</sub> Test Required
1	Corn Receiving (East Truck Unloading Pits #1 and #2)	No
2	Corn Receiving (West Truck Unloading Pits #3 and #4)	No
3	Corn Cleaner/Fines Bin	Yes <sup>1</sup>
4	Corn Cleaner	No
42	Corn Fines Transfer	Yes <sup>1</sup>
54-56	Corn Silo #1-3	No
57-61	Corn Silo #4-8	No
71	Rail Corn Receiving, Storage, and Handling	No
72-89	Corn Storage Bins 9A, 9B, 10A, 10B, 11A, 11B, 12A, 12B, 13A, 13B, 14A, 14B, 15A, 15B, 16A, 16B, 17A, and 17B	No
105	Rail Corn Silo #1	Yes <sup>2</sup>
106	Rail Corn Silo #2	Yes <sup>2</sup>

<sup>1</sup> Initial performance testing is required for SV#3 and 42; however, only one of the two sources must be tested if the first performance test demonstrates compliance. If the test indicates non-compliance, the other emission point shall be tested to independently verify compliance.

<sup>2</sup> Initial performance testing is required for SV#105 and 106; however, only one of the two sources must be tested if the first performance test demonstrates compliance. If the test indicates non-compliance, the other emission point shall be tested to independently verify compliance.

- (7) Fugitive emissions from the railcar unloading stations shall be further reduced by choke loading the receiving pits. Additionally, the railcar unloading stations shall be partially enclosed by a roof and two (2) sidewalls. {Title 129, Chapters 4 and 19}

(B) The following conditions apply to MILLHOUSE/FEEDHOUSE OPERATIONS:

- (1) A ventilation system must be used to aspirate the wet corn milling and feedhouse equipment (EU3-5), the stillage/steepwater evaporators (EU12-69 and EU12-70) and the gluten RVFs (EU6-66, EU6-67, and EU6-68). The emissions captured by the ventilation system shall be controlled by the millhouse scrubber system, consisting of two wet scrubbers that vent through a common stack (SV-5). {Title 129, Chapters 4 and 19}
- (2) The operation of the millhouse scrubber system shall be in accordance with the following requirements: {Title 129, Chapters 19 and 27}
  - (a) Both scrubbers shall be operated at all times when the associated emission units are in operation.
  - (b) The scrubbers shall be properly designed, installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of

the scrubbers shall be kept on site and readily available to Department representatives.

- (c) The scrubbers shall be equipped with indicators of scrubbing liquid flow rate, pH, and pressure differential. Operating parameter readings shall be recorded at least once each day the scrubbers are in operation. The indicators shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the operating parameter indicators shall be kept on site and readily available to Department representatives.
  - (d) Routine observations (at least once each day of scrubber operation) shall be conducted to determine whether there are leaks, noise, atypical operating parameters (e.g., scrubbing liquid flow rate), or other indications that may necessitate corrective action.
- (3) The emissions from the millhouse scrubber system stack (SV-5) shall not exceed the following emission limits (3-hour or test method average). {Title 129, Chapters 4 and 19}
- (a) 3.89 pounds per hour PM/PM<sub>10</sub>.
  - (b) 6.75 pounds per hour SO<sub>2</sub>.
- (4) VOC emissions entering the millhouse scrubber system shall be reduced by 95%, or to a level of 20 ppmvd. {Title 129, Chapter 27 and Consent Decree (United States v. ADM, No. 03-CV-2066 (C.D. Illinois))}
- (5) In order to demonstrate compliance with Conditions XIII.(B)(3) and (B)(4) and to verify assumptions used in the permit application, the source shall conduct a performance test for PM, PM<sub>10</sub>, SO<sub>2</sub>, HAPs, and VOC, on stack SV-5. The performance test shall determine the VOC control efficiency of the millhouse scrubber system. The performance test shall be conducted in accordance with Condition XIII.(V) and shall include speciation and quantification of the HAP composition of the emissions. VOC emissions shall be expressed as total mass of VOC. {Title 129, Chapter 34}
- (C) The following conditions apply to: FIBER DEWATERING
- (1) The emissions from the fiber dewatering vent (SV-43) shall not exceed the following emission limits (3-hour or test method average). {Title 129, Chapters 4 and 19}
- (a) 0.627 pounds per hour PM/PM<sub>10</sub>
  - (b) 4.06 pounds per hour SO<sub>2</sub>
  - (c) 1.52 pounds per hour VOC

- (2) In order to demonstrate compliance with Condition XIII.(C)(1) and to verify assumptions used in the permit application, the source shall conduct a performance test for PM, PM<sub>10</sub>, SO<sub>2</sub>, VOC, and HAPs on vent SV-43. The performance test shall be conducted in accordance with Condition XIII.(V) and shall include speciation and quantification of the HAP composition of the emissions. VOC emissions shall be expressed as total mass of VOC. {Title 129, Chapter 34}
- (3) The dewatering equipment shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the dewatering equipment shall be kept on site and readily available to Department representatives.
- (D) The following conditions apply to: PRODUCT DRYING OPERATIONS (GERM, GLUTEN, STARCH):
- (1) The product drying equipment shall consist of the emission points and control devices presented in Table 4: {Title 129, Chapters 19, and 27}

**Table 4. Product Drying Equipment**

<b>Emission Unit ID</b>	<b>SV #</b>	<b>Equipment Description</b>	<b>Dryer Heat Input (MMBtu/hr)</b>	<b>Add-on control device</b>
EU4-6	6	Starch Dryer # 1	NA – steam heated	Wet Scrubber
EU5-7A, EU5-7B, EU5-7C	7	Germ Dryers # 1-3	NA – steam heated	Wet Scrubber
EU5-8	8	Fluidized Bed Germ Dryer #1	55	Wet Scrubber, Low-NO <sub>x</sub> burner
EU6-16	16	Gluten Flash Dryer # 1	55	Wet Scrubber, Low-NO <sub>x</sub> burner
EU6-18	18	Gluten Flash Dryer # 2	65	Wet Scrubber, Low-NO <sub>x</sub> burner
EU4-45	45	Starch Dryer # 2	NA – steam heated	Wet Scrubber

- (2) The Gluten Flash Dryer # 1 shall only combust natural gas or natural gas combined with biogas from the wastewater treatment plant. The Gluten Flash Dryer # 2 and the Fluidized Bed Germ Dryer #1 shall burn natural gas only. {Title 129, Chapters 4 & 19}
- (3) The product drying equipment shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the product drying equipment shall be kept on site and readily available to Department representatives. {Title 129, Chapters 4 and 19}

- (4) Emissions from the product drying operations shall not exceed the emission limits in Table 5 (3-hour or test method average). {Title 129, Chapters 4, 19, and 27}

**Table 5. Product Drying Emission Limits**

SV #	Equipment Description	PM limitation (lb/hr)	PM <sub>10</sub> limitation (lb/hr)	NO <sub>x</sub> limitation (lb/hr)	SO <sub>2</sub> limitation (lb/hr)	CO limitation (lb/hr)	VOC limitation (lb/hr)
6	Starch Dryer # 1	3.03	3.03				
7	Germ Dryer #1-3	7.81	3.82		8.5		95% control efficiency or 20 ppmvd <sup>2</sup>
8	Fluidized Bed Germ Dryer #1	3.0	3.0	3.3	0.51	4.02	1.5
16	Gluten Flash Dryer # 1	3.34 <sup>1</sup>	8.0	4.35	6.6	15.2	22.8
18	Gluten Flash Dryer # 2	9.85	4.5	3.9	2.4	4.74	22.2
45	Starch Dryer # 2	3.03	3.03				

<sup>1</sup> Filterable only.

<sup>2</sup> Consent Decree (United States v. ADM, No. 03-CV-2066 (C.D. Illinois)).

- (5) The operation of each scrubber identified in Condition XIII.(D)(1) shall be in accordance with the following requirements: {Title 129, Chapters 19 and 27}
- (a) The scrubbers shall be operated at all times when the associated emission units are in operation.
  - (b) The scrubbers shall be properly designed, installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the scrubbers shall be kept on site and readily available to Department representatives.
  - (c) The scrubbers shall be equipped with indicators of scrubbing liquid flow rate, pH (except the Starch Dryer scrubbers), and scrubber pressure differential. Operating parameter readings shall be recorded at least once each day the scrubbers are in operation. The indicators shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the operating parameter indicators shall be kept on site and readily available to Department representatives.
  - (d) Routine observations (at least once each day of scrubber operation) shall be conducted to determine whether there are leaks, noise, atypical

operating parameters (e.g., scrubbing liquid flow rate), or other indications that may necessitate corrective action.

- (6) In order to demonstrate compliance with Condition XIII.(D)(4), the source shall conduct performance tests as specified in Table 6. The performance test shall be conducted in accordance with Condition XIII.(V) and shall include speciation and quantification of the HAP composition of the emissions. VOC emissions shall be expressed as total mass of VOC. {Title 129, Chapter 34}

**Table 6. Product Drying Test Requirements**

SV #	Equipment Description	PM Test Required	PM <sub>10</sub> Test Required	NO <sub>x</sub> Test Required	SO <sub>2</sub> Test Required	CO Test Required	VOC/HAP Test Required
6	Starch Dryer # 1	No	No	No	No	No	No
7	Germ Dryer #1, 2, and 3	Yes	Yes	No	Yes	No	Yes
8	Fluidized Bed Germ Dryer #1	Yes	Yes	Yes	Yes	Yes	Yes
16	Gluten Flash Dryer # 1	Yes	Yes	Yes	Yes	Yes	Yes
18	Gluten Flash Dryer # 2	Yes	Yes	Yes	Yes	Yes	Yes
45	Starch Dryer # 2	No	No	No	No	No	No

- (E) The following conditions apply to: GERM, GLUTEN, AND STARCH COOLING AND STORAGE OPERATIONS:

- (1) The germ and gluten cooling and storage and starch storage equipment consists of the emission points and control devices presented in Table 7: {Title 129, Chapter 19}

**Table 7. Germ, Gluten, and Starch Cooling and Storage Equipment**

Emission Unit ID	SV #	Equipment Description	Add-on control device
EU5-9A	9	Germ Cooler # 1	Baghouse
EU5-9B		Germ Cooler # 2	Baghouse
EU5-9C		Germ Cooler # 3	Baghouse
EU5-12	12	Germ Cooler # 4	Baghouse
EU6-17	17	Gluten Cooler # 1	Baghouse
EU6-19	19	Gluten Cooler # 2	Baghouse
EU4-20	20	Starch Storage Bin # 11	Baghouse
EU4-21	21	Starch Storage Bin # 12	Baghouse
EU4-22	22	Starch Storage Bin # 9	Baghouse
EU4-23	23	Starch Storage Bin # 10	Baghouse
EU5-24	24	Gluten Storage Bin # 7	Baghouse
EU5-25	25	Gluten Storage Bin # 8	Baghouse

<b>Emission Unit ID</b>	<b>SV #</b>	<b>Equipment Description</b>	<b>Add-on control device</b>
EU5-26	26	Gluten Storage Bin # 5	Baghouse
EU5-27	27	Gluten Storage Bin # 6	Baghouse
EU6-28	28	Germ Storage Bin # 3	Baghouse
EU6-29	29	Germ Storage Bin # 4	Baghouse
EU6-30	30	Germ Storage Bin # 1	Baghouse
EU6-31	31	Germ Storage Bin # 2	Baghouse
EU6-44	44	Gluten Recycle	Baghouse
EU4-46	46	Starch Bin #13	Baghouse
EU4-47	47	Starch Bin #14	Baghouse
EU4-48	48	Starch Dryer Loadout	Baghouse

- (2) The equipment identified in Condition XIII.(E)(1) shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the germ, gluten, and starch cooling and storage equipment shall be kept on site and readily available to Department representatives.
- (3) The operation of each dry dust collector (baghouse) shall be in accordance with the following requirements: {Title 129, Chapter 19}
- (a) The dry dust collectors shall be operated whenever the associated emission units are in operation.
  - (b) The dry dust collectors shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the dry dust collectors shall be kept on site and readily available to Department representatives.
  - (c) Each dry dust collector shall be equipped with an operational pressure differential indicator. The pressure differential indicator readings shall be recorded at least once each day that the associated dry dust collector is operating. The pressure indicator shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the pressure differential indicator shall be kept on site and readily available to Department representatives.
  - (d) Dry dust collector filter bags/cartridges are to be inspected and/or replaced according to the operation and maintenance manual or more frequently as indicated by pressure differential indicator readings or other indication of unit failure.
  - (e) Routine observations (at least once each day during daylight hours of dry dust collector operation) shall be conducted to determine whether there are visible emissions from the stack, leaks, noise, atypical pressure differential readings, or other indications, which may necessitate

corrective action. Corrective action shall be taken immediately if necessary.

- (f) Collected waste material from the dry dust collectors shall be handled, transported, and stored in a manner that ensures compliance with Condition X.
  - (g) The source shall maintain on-site an inventory of spare bags/cartridges of each type used to ensure rapid replacement in the event of bag/cartridge failure.
- (4) Emissions from the germ, gluten, and starch cooling and storage operations shall not exceed the emission limits in Table 8 (3- hour or test method average). {Title 129, Chapters 4 and 19}

**Table 8. Germ, Gluten, and Starch Cooling and Storage Emission Limits**

SV #	Equipment Description	PM/PM <sub>10</sub> (lbs/hr)	VOC (lb/hr)
9	Germ Cooler # 1-3	2.04	5.1
12	Germ Cooler # 4	1.55	6.5
17	Gluten Cooler # 1	1.25	2.08
19	Gluten Cooler #2	1.58	2.62
20	Starch Storage Bin # 11	0.03	
21	Starch Storage Bin # 12	0.03	
22	Starch Storage Bin # 9 (Off-Spec Starch)	0.03	
23	Starch Storage Bin # 10	0.03	
24	Gluten Storage Bin # 7	0.03	
25	Gluten Storage Bin # 8	0.03	
26	Gluten Storage Bin # 5	0.03	
27	Gluten Storage Bin # 6	0.03	
28	Gluten Storage Bin # 3	0.03	
29	Gluten Storage Bin # 4	0.03	
30	Gluten Storage Bin # 1	0.03	
31	Gluten Storage Bin # 2	0.03	
44	Gluten Recycle	0.11	0.2
46	Starch Bin #13	0.06	
47	Starch Bin #14	0.06	
48	Starch Dryer Loadout	0.11	

- (5) In order to demonstrate compliance with Condition XIII.(E)(4) and to verify assumptions used in the permit application, the source shall conduct performance tests as specified in the Table 9. The performance test shall be conducted in accordance with Condition XIII.(V) and shall include speciation and quantification of the HAP composition of the emissions. VOC emissions shall be expressed as total mass of VOC. {Title 129, Chapter 34}

**Table 9. Germ, Gluten, and Starch Cooling and Storage Test Requirements**

SV #	Equipment Description	PM/PM <sub>10</sub> Test Required	VOC/HAP Test Required
9	Germ Cooler # 1-3	Yes	Yes
12	Germ Cooler # 4	Yes <sup>1</sup>	Yes <sup>1</sup>
17	Gluten Cooler # 1	Yes	Yes
19	Gluten Cooler #2	Yes <sup>2</sup>	Yes <sup>2</sup>
20	Starch Storage Bin # 11	No	No
21	Starch Storage Bin # 12	No	No
22	Starch Storage Bin # 9 (Off-Spec Starch)	No	No
23	Starch Storage Bin # 10	No	No
24	Gluten Storage Bin # 7	No	No
25	Gluten Storage Bin # 8	No	No
26	Gluten Storage Bin # 5	No	No
27	Gluten Storage Bin # 6	No	No
28	Germ Storage Bin # 3	No	No
29	Germ Storage Bin # 4	No	No
30	Germ Storage Bin # 1	No	No
31	Germ Storage Bin # 2	No	No
44	Gluten Recycle	Yes <sup>2</sup>	Yes <sup>2</sup>
46	Starch Bin #13	No	No
47	Starch Bin #14	No	No
48	Starch Dryer Loadout	No	No

<sup>1</sup> Initial performance testing is required for SV#9 and 12; however, only SV#9 must be tested if the performance test demonstrates compliance. If the test indicates non-compliance, the other emission point shall be tested to independently verify compliance.

<sup>2</sup> Initial performance testing is required for SV#17, 19 and 44; however, only SV#17 must be tested if the performance test demonstrates compliance. If the test indicates non-compliance, the other emission points shall be tested to independently verify compliance.

- (F) The following conditions apply to: FERMENTATION AND DISTILLATION OPERATIONS
- (1) VOC and HAP emissions from the fermentation and distillation operations shall be controlled by three scrubbers (EU7-32, EU7-33, and EU7-34). {Title 129, Chapters 19 and 27}
  - (2) The operation of the scrubbers shall be in accordance with the following requirements: {Title 129, Chapters 19 and 27}
    - (a) The scrubbers shall be operated at all times when the associated emission units are in operation.
    - (b) The scrubbers shall be properly designed, installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of

the scrubbers shall be kept on site and readily available to Department representatives.

- (c) The scrubbers shall be equipped with indicators of scrubbing liquid flow rate and pressure differential. Operating parameter readings shall be recorded at least once each day the scrubbers are in operation. The indicators shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the operating parameter indicators shall be kept on site and readily available to Department representatives.
  - (d) Routine observations (at least once each day of scrubber operation) shall be conducted to determine whether there are leaks, noise, atypical operating parameters (e.g., scrubbing liquid flow rate), or other indications that may necessitate corrective action.
- (3) The total emissions from the scrubber stacks (SV #32, 33, and 34) shall not exceed the following emission limits (3-hour or test method average). {Title 129, Chapters 19}
- (a) 2.5 lbs/hr SO<sub>2</sub>
  - (b) 13.5 lbs/hr VOC
- (4) The scrubbers shall each have a minimum control efficiency of 65 percent for combined HAPs or shall have a HAP exhaust concentration of 20 ppmvd or less, and shall each have a minimum control efficiency of 95 percent for VOCs or shall have a VOC exhaust concentration of 20 ppmvd or less. {Title 129, Chapter 27; Consent Decree No. 03-CV-2066}
- (a) A weighted average of the control efficiency for the combined HAPs shall be calculated using the following formula:

$$\text{Efficiency} = \left( 1 - \left( \frac{\sum C}{\sum U} \right) \right) * 100$$

Where: Efficiency = the combined HAP control efficiency  
C = the controlled (outlet) individual HAP emission rates (lbs/hr)  
U = the uncontrolled (inlet) individual HAP emission rates (lbs/hr)

- (b) Following HAP efficiency testing, ADM shall submit a revised BACT analysis with the results if 65% reduction or 20 ppmvd is not achieved.

- (c) If the scrubbers are unable to achieve a control efficiency of 65 percent or 20 ppmvd for combined HAPs, the limit may be subject to revisions after the opportunity for public comment.
- (5) In order to demonstrate compliance with Condition XIII.(F)(3) and to verify the assumptions used in the permit application, the source shall conduct a performance test for SO<sub>2</sub>, VOC, and HAP on the CO<sub>2</sub> scrubber stacks (SV #32, 33, and 34). In addition, the performance test shall determine the VOC and HAP control efficiency of the scrubbers to demonstrate compliance with Condition XIII.(F)(4). The performance test shall be conducted in accordance with Condition XIII.(V) and shall include speciation and quantification of the HAP composition of the emissions. VOC emissions shall be expressed as total mass of VOC. {Title 129, Chapter 34}
- (G) The following conditions apply to: STORAGE TANKS
- (1) The storage tanks consist of the internal floating-roof vertical aboveground tanks presented in Table 10: {Title 129, Chapters 18, 19, and 27}

**Table 10. Storage Tanks**

<b>Emission Unit ID</b>	<b>Equipment Description</b>	<b>Capacity (gallons)</b>
EU7-TK01	Day Tank A, ethanol	100,000
EU7-TK02	Day Tank B, ethanol	100,000
EU7-TK03	Rerun Tank, ethanol	34,000
EU7-TK04	Day Tank C, ethanol	100,000
EU7-TK05	Denaturant Tank	42,420
EU7-TK06	Denatured Ethanol Tank	2,000,000
EU7-TK07	Corrosion Inhibitor Tank	3,800
EU7-TK08	Denaturant Tank	100,000

- (2) The requirements of the NSPS for Volatile Organic Liquid Storage Vessels in 40 CFR 60, Subparts A and Kb {Title 129, Chapter 18, Sections 001.01 and 001.62} apply to storage tanks EU-TK05, EU-TK06, and EU-TK08. The requirements include, but are not limited to, the following: {Title 129, Chapters 18 and 27}
- (a) The tanks shall each be equipped with an internal floating roof, in accordance with the specifications in 40 CFR 60.112b(a)(1).
- (b) The tanks shall each be visibly inspected and repaired in accordance with testing and procedures per 40 CFR 60.113b(a).
- (c) The owner or operator of the affected tanks shall report and keep records as described in 40 CFR 60.115b – Reporting and recordkeeping requirements and in 40 CFR 60.116b – Monitoring of operations.

- (3) The requirements of Conditions XIII.(G)(2)(a-b) apply to storage tank EU-TK01, EU-TK02, EU-TK03, and EU-TK04. {Title 129, Chapter 27}
- (H) The following condition applies to: LIQUID PRODUCT LOADOUT
- (1) The source shall use submerged and/or bottom fill loading when transferring liquid product from the storage tanks to tanker railcar or tanker truck. {Title 129, Chapters 19 and 27}
  - (2) Truck and railcar loadout of liquid product shall be controlled by a closed vapor recovery system with a flare (EU7-90) at all times liquid product loadout is occurring. {Title 129, Chapters 19 and 27}
    - (a) The vapor recovery system and flare shall be properly designed, installed, operated and maintained in order to capture the vapor generated during product loadout. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the vapor recovery system and flare shall be kept on site and readily available to Department representatives.
    - (b) When liquid loadout is occurring, a flame shall be present at the flare. The facility must install an appropriate safety device or flame monitoring system to ensure that loadout cannot occur without the presence of a flame. The safety device or flame monitoring system shall be properly installed, operated, calibrated and maintained. Manufacturer's documentation shall be kept on site and readily available to Department representatives.
- (I) The following conditions apply to REFINERY CARBON FURNACES #1 and #2:
- (1) Carbon furnaces #1 (EU8-35) and #2 (EU8-36) shall burn natural gas only, and shall be equipped with afterburners. The furnaces shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the furnaces shall be kept on site and readily available to Department representatives.
  - (2) The emissions from each carbon furnace shall first be combusted by an afterburner and further controlled by a venturi wet scrubber with impingement trays. {Title 129, Chapters 19 and 27}
  - (3) The operation of each scrubber shall be in accordance with the following requirements: {Title 129, Chapters 19 and 27}
    - (a) The scrubbers shall be operated at all times when the associated emission units are in operation.
    - (b) The scrubbers shall be properly designed, installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of

the scrubbers shall be kept on site and readily available to Department representatives.

- (c) The scrubbers shall be equipped with indicators of scrubbing liquid flow rate, pH, and scrubber pressure differential. Operating parameter readings shall be recorded at least once each day the scrubbers are in operation. The indicators shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the operating parameter indicators shall be kept on site and readily available to Department representatives.
  - (d) Routine observations (at least once each day of scrubber operation) shall be conducted to determine whether there are leaks, noise, atypical operating parameters (e.g., scrubbing liquid flow rate), or other indications that may necessitate corrective action.
- (4) The total emissions from the wet scrubber for carbon furnace #1 stack (SV-35) shall not exceed the following emission limits (3-hour or test method averaged).  
{Title 129, Chapters 4, 19, and 27}
- (a) 1.88 pounds per hour PM
  - (b) 1.00 pounds per hour PM<sub>10</sub>
  - (c) 3.38 pounds per hour NO<sub>x</sub>
  - (d) 2.0 pounds per hour SO<sub>2</sub>
  - (e) 7.63 pounds per hour CO
  - (f) 2.7 pounds per hour VOC
- (5) The total emissions from the wet scrubber for carbon furnace #2 stack (SV-36) shall not exceed the following emission limits (3-hour or test method average)  
{Title 129, Chapters 4, 19, and 27}:
- (a) 3.14 pounds per hour PM
  - (b) 1.50 pounds per hour PM<sub>10</sub>
  - (c) 5.64 pounds per hour NO<sub>x</sub>
  - (d) 3.3 pounds per hour SO<sub>2</sub>
  - (e) 8.14 pounds per hour CO
  - (f) 3.8 pounds per hour VOC

(J) The following condition applies to: BOILERS # 1, 2, 3, 4, and 5

- (1) Only natural gas shall be burned as fuel in Boiler #1 (EU9-38), Boiler #2 (EU9-39), Boiler #3 (EU9-40), Boiler #4 (EU9-41), and Boiler #5 (EU9-98). {Title 129, Chapters 4 and 19}
- (2) On or before April 30, 2006, the existing burner in Boiler #1 (EU9-38) shall be replaced with a low-NO<sub>x</sub> burner. Upon completion of this replacement, NO<sub>x</sub> emissions from Boiler #1 shall meet the limits presented in Condition XIII.(J)(3). (Consent Decree (United States v. ADM, No. 03-CV-2066 (C.D. Illinois)))
- (3) The total emissions from the boiler stacks shall not exceed the emission limits in Table 11 (3-hour or test method average). {Title 129, Chapters 4 and 19}

**Table 11. Boilers #1, 2, 3, 4, and 5 Emission Limits**

Emission Unit ID	SV#	Boiler #	NO <sub>x</sub> (lb/MMBtu)	CO (lb/hr)
EU9-38	38	1	0.2 0.06 <sup>a</sup>	
EU9-39	39	2	0.074	
EU9-40	40	3	0.074 <sup>b</sup>	
EU9-41	40	4	0.074 <sup>b</sup>	
EU9-42	98	5	0.036	23.6

<sup>a</sup> Boiler #1 subject to 0.06 (lb/MMBtu) NO<sub>x</sub> limit upon completion of installation of the low-NO<sub>x</sub> burner required by Condition XIII.(J)(2).

<sup>b</sup> These boilers share a common stack and a single CEMS. The emission limits are total for both boilers.

- (4) The NSPS for Industrial-Commercial-Institutional Steam Generating Units, Subpart Db {Title 129, Chapter 18, Section 001.22} apply to Boilers # 1 thru #5 (EU9-38, 9-39, 9-40, 9-41, and 9-98}. The requirements include, but are not limited to, the following:
  - (a) NO<sub>x</sub> emissions shall not exceed 0.1 lbs/MMBtu (30-day rolling average). This emission limit applies at all times including periods of startup, shutdown or malfunction.
  - (b) Performance and compliance testing shall be conducted in accordance with Title 129, Chapter 18, NSPS, Section 001.01 General Provisions, and as required by 40 CFR 60.46b(e) and Condition XIII.(V).
  - (c) The source shall install, calibrate, maintain, and operate a CEMS or approved alternative in accordance with the Subpart for each boiler measuring the NO<sub>x</sub> emissions. Boilers #3 (EU9-40) and #4 (EU9-41) share a common stack and shall use a single CEMS.
  - (d) The Requirements for Performance Specifications 2 - Specifications and Test Procedures for SO<sub>2</sub> and NO<sub>x</sub> Continuous Emission Monitoring

Systems in Stationary Sources found in 40 CFR 60 Appendix B shall be followed for the CEMS required under the Condition XIII.(J)(4)(c).

- (e) Quality assurance for the CEMS required under the Condition XIII.(J)(4)(c) shall be conducted according to the requirements of 40 CFR 60 Appendix F. The report of the Relative Accuracy Test Audit required by the 40 CFR 60 Appendix F or a similar procedure shall be submitted to the Department within 45 days of completion of the test.
  - (f) The source shall record and maintain records of the amount of natural gas combusted during each day in each boiler unless EPA Region VII approves an alternative record-keeping frequency. {40 CFR 60.49b(d)}
  - (g) The source shall submit notification of the date of construction, anticipated startup, and actual startup, as provided by Title 40 CFR 60.7. {40 CFR 60.49b(a)}
- (5) The requirements of the NESHAP for Commercial, Industrial, and Institutional Boilers and Process Heaters in 40 CFR 63, Subpart DDDDD {Title 129, Chapter 28, Section 001.90} apply to the existing natural gas fired Boilers #1 through #4 (EU9-38, EU9-39, EU9-40, and EU9-41). These boilers comprise the affected source for the existing large gaseous fuel subcategory. Pursuant to 40 CFR 63.7506(b)(1) and 40 CFR 63.7545(c), the source submitted an Initial Notification containing the information specified in 40 CFR 63.9(b)(2) on March 10, 2005. {Title 129, Chapters 27 and 28}
- (6) The requirements of the NESHAP for Commercial, Industrial, and Institutional Boilers and Process Heaters in 40 CFR 63, Subpart DDDDD {Title 129, Chapter 28, Section 001.90} apply to the new natural gas fired Boiler #5 (EU9-98). This boiler is considered a new gaseous fuel unit and shall comply with the requirements in this subpart upon startup of this boiler. The requirements include, but are not limited to, the following:
- (a) The emission limits and work practice standards pursuant to 40 CFR 63.7500.
  - (b) The testing, compliance, and monitoring requirements pursuant to 40 CFR 63.7505-63.7541.
  - (c) The notification, reporting, and recordkeeping requirements pursuant to 40 CFR 63.7545-63.7560.
- (K) The following conditions apply to: CFB BOILERS EU9-1A and EU9-1B
- (1) Only coal and alternative fuel blends (coal mixed with up to 20% by weight biomass, petroleum coke, or tire-derived fuel) shall be burned in the CFB boilers (EU9-1A and EU9-1B). {Title 129, Chapters 4 and 19}
  - (2) Emissions from the CFB boilers shall be controlled by limestone injection, ammonia injection (SNCR), and two fabric filter baghouses (one for each

boiler), exhausting through individual flues of a single stack (SV-COGEN1).  
{Title 129, Chapters 4, 19, and 27}

- (3) The operation of the dry dust collectors (baghouses) shall be in accordance with the following requirements: {Title 129, Chapters 4 and 19}
  - (a) The dry dust collectors shall be operated whenever the associated emission units are in operation.
  - (b) The dry dust collectors shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the dry dust collectors shall be kept on site and readily available to Department representatives.
  - (c) The dry dust collectors shall be equipped with an operational pressure differential indicator. The pressure differential indicator readings shall be recorded at least once each day that the associated dry dust collector is operating. The pressure indicator shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the pressure differential indicator shall be kept on site and readily available to Department representatives.
  - (d) Dry dust collector filter bags/cartridges are to be inspected and/or replaced according to the operation and maintenance manual, or more frequently as indicated by pressure differential indicator readings or other indication of unit failure.
  - (e) Routine observations (at least once each day during daylight hours of dry dust collector operation) shall be conducted to determine whether there are leaks, noise, atypical pressure differential readings, or other indications, which may necessitate corrective action. Corrective action shall be taken immediately if necessary.
  - (f) Collected waste material from the dry dust collectors shall be handled, transported, and stored in a manner that ensures compliance with Condition X.
  - (g) The source shall maintain on-site an inventory of spare bags/cartridges of each type used to ensure rapid replacement in the event of bag/cartridge failure.
- (4) The total emissions from the CFB boilers stack (SV-COGEN1) shall not exceed the emission limits in Table 12. {Title 129, Chapter 4, 19, and 27}

**Table 12. CFB Boiler Emission Limits**

Pollutant / Parameter	Limit	Averaging Period
PM (filterable only)	0.015 lb/MMBtu	Average of 3 runs
PM <sub>10</sub> (filterable and condensable)	0.025 lb/MMBtu	Average of 3 runs
VOC	0.007 lb/MMBtu	Average of 3 runs
F (as HF)	0.0012 lb/MMBtu	Average of 3 runs
H <sub>2</sub> SO <sub>4</sub>	0.01 lb/MMBtu	Average of 3 runs
NO <sub>x</sub>	0.07 lb/MMBtu	30-day rolling average excluding period of "cold startup" <sup>1</sup>
Pb	0.0002 lb/MMBtu	Average of 3 runs
SO <sub>2</sub>	0.11-0.20 lb/MMBtu	30-day rolling average <sup>2,3</sup>
SO <sub>2</sub>	3,750 lbs/hr	3-hour average (NAAQS)
CO	0.1 lb/MMBtu	30-day rolling average <sup>2</sup>
CO	150 lbs/hr	3 hour average

<sup>1</sup> A cold startup period is defined as that period of time when a coal-fired cogen boiler is proceeding to increase the temperature in the lower combustor from less than 400°F to at least 1500°F. This period shall last no more than 48 hours and NO<sub>x</sub> emissions data from this period shall be excluded when determining compliance with the limits established. Ammonia injection shall begin as soon as the lower combustor temperature reaches 1500°F and the cold startup period will end at this time. All data from cold startup periods after the first 48 hours, or while ammonia is injected in the boiler, will be included in determining compliance with the optimized limit.

<sup>2</sup> Excludes periods of start-up and shutdown.

<sup>3</sup> 30-day rolling average SO<sub>2</sub> limit will vary depending on fuel sulfur content.

- (5) The Permittee shall not discharge or cause the discharge of SO<sub>2</sub> from the CFB boilers to the atmosphere in excess of the following:

A calculated emission limit, on a 30-day rolling average, as set forth below, for any BOD:

$$\frac{0.20A + 0.11B + 0.10C_1 + \dots + 0.10C_n}{30} \text{ lb/MMBtu heat input}$$

Where:

A = Number of BODs, during 30 BODs prior to the calculation, when the uncontrolled SO<sub>2</sub> emission potential of the combusted fuel was 2.0 lb/MMBtu or greater based on daily as-fired fuel sulfur analysis.

B = Number of BODs, during 30 BODs prior to the calculation, when the uncontrolled SO<sub>2</sub> emission potential of the combusted fuel was 1.1 lb/MMBtu or less based on daily as-fired fuel sulfur analysis.

C(1) = Uncontrolled SO<sub>2</sub> emission potential of the combusted fuel for each BOD, during 30 BODs prior to the calculation, when the uncontrolled SO<sub>2</sub> emission potential of the combusted fuel was greater than 1.1 lb/MMBtu and less than 2.0 lb/MMBtu.

C(n) = Each additional BOD when the uncontrolled SO<sub>2</sub> emission potential of the combusted coal was greater than 1.1 lb/MMBtu and less than 2.0 lb/MMBtu.

BOD = Boiler Operating Day is a day when the boiler operates at least 1 hour, not including periods of startup and shutdown.

For purposes of determining the applicable SO<sub>2</sub> emission limit, the uncontrolled SO<sub>2</sub> emission potential of the coal, on a 30-day rolling average, shall be based on daily as-fired fuel samples obtained during a period of 30 BODs. Any BOD that does not have valid sulfur analysis results shall be considered a BOD where the uncontrolled SO<sub>2</sub> emission potential was less than 1.1 lb/MMBtu (B).

- (6) In order to demonstrate compliance with Condition XIII.(K)(4) and to verify the assumptions used in the permit application, the source shall conduct a performance test for each boiler for the pollutants listed in Condition XIII.(K)(4), except as described in Condition XIII.(K)(7)(c) for NO<sub>x</sub>, SO<sub>2</sub>, and CO. The performance test shall be performed in accordance with Condition XIII.(V). The performance test for PM, PM<sub>10</sub>, and VOC shall be completed within 180 days after first combusting each fuel blend. VOC emissions shall be expressed as total mass of VOC. The performance test for F (as HF), H<sub>2</sub>SO<sub>4</sub>, and Pb shall be completed with the worst-case fuel for these pollutants as determined by fuel analysis. Compliance with the NO<sub>x</sub>, SO<sub>2</sub>, and CO limits in Condition XIII(K)(4) shall be demonstrated using CEMS data as required by Condition XIII(K)(7)(c). {Title 129, Chapter 34}
- (7) The NSPS for Industrial-Commercial-Institutional Steam Generating Units, Subpart Db {Title 129, Chapter 18, Section 001.22} apply to boilers EU9-1A and EU9-1B, exhausting through stack (SV-COGEN1). The requirements include, but are not limited to, the following: {40 CFR 60.40b}
- (a) Emissions from the CFB boilers shall not exceed the emission limits in Table 13. Compliance with the PM, NO<sub>x</sub>, and SO<sub>2</sub> limits shall be demonstrated by compliance with Condition XIII.(K)(4).

**Table 13. CFB Boiler NSPS Limits**

Pollutant /Parameter	Limit	Averaging Period
NO <sub>x</sub>	0.20 lb/MMBtu	30-day rolling <sup>1</sup>
SO <sub>2</sub>	1.2 lb/MMBtu and 92% reduction or 0.20 lb/MMBtu	30-day rolling <sup>1</sup>
Opacity	20 % ( 27 % for one 6-minute period per hour)	6-minute
PM (filterable only)	0.03 lb/MMBtu	Average of 3 runs

<sup>1</sup> Includes periods of start-up, shutdown, and malfunction.

- (b) Performance and compliance testing shall be conducted in accordance with Title 129, Chapter 18, NSPS, Section 001.01 General Provisions, and as required by 40 CFR 60.45b(c), 60.46b(d), 60.46b(e), and Condition XIII.(V).
  - (c) The source shall install, calibrate, maintain, and operate a CEMS or approved alternative for each boiler in accordance with the Subpart for measuring SO<sub>2</sub>, CO, and NO<sub>x</sub> emissions, and a COMS for measuring opacity.
  - (d) The Requirements for Performance Specification 2 - Specifications and Test Procedures for SO<sub>2</sub> and NO<sub>x</sub> Continuous Emission Monitoring Systems in Stationary Sources, and Performance Specification 4 – Specifications and Test Procedures for CO Continuous Emission Monitoring Systems in Stationary Sources found in 40 CFR 60 Appendix B, shall be followed for each CEMS required under Condition XIII.(K)(7)(c).
  - (e) Quality Assurance for the continuous emissions monitoring systems required under the Condition XIII.(K)(7)(c) shall be conducted according to the requirements of 40 CFR 60 Appendix F. The report of the Relative Accuracy Test Audit required by the 40 CFR 60 Appendix F or a similar procedure shall be submitted to the Department within 45 days of completion of the test.
  - (f) The source shall record and maintain records of the amount of coal, biomass, petroleum coke, and TDF combusted during each day in each boiler unless EPA Region VII approves an alternative record-keeping frequency. {40 CFR 60.49b(d)}
  - (g) The source shall submit notification of the date of construction, anticipated startup, and actual startup, as provided by Title 40 CFR 60.7. {40 CFR 60.49b(a)}
- (8) The requirements of the NESHAP for Commercial, Industrial, and Institutional Boilers and Process Heaters in 40 CFR 63, Subpart DDDDD {Title 129, Chapter 28, Section 001.90} apply to boilers EU9-1A and EU9-1B, exhausting through stack (SV-COGEN1). These boilers comprise the affected source for the new large solid fuel subcategory and shall comply with the requirements in this subpart upon startup of these units. The requirements include, but are not limited to, the following:
- (a) The emission limits and work practice standards pursuant to 40 CFR 63.7500.
  - (b) The testing, compliance, and monitoring requirements pursuant to 40 CFR 63.7505-63.7541.

(c) The notification, reporting, and recordkeeping requirements pursuant to 40 CFR 63.7545-63.7560.

(L) The following conditions apply to: COAL, FLY ASH, BED ASH, AND LIMESTONE HANDLING, STORAGE, AND TRANSPORT OPERATIONS:

(1) PM and PM<sub>10</sub> emissions from all coal, fly ash, bed ash and limestone handling, storage, and transport equipment shall be controlled by the control equipment presented in Table 14: {Title 129, Chapters 4 and 19}

**Table 14. Coal, Ash, and Limestone Handling Equipment**

<b>Emission Unit ID</b>	<b>SV #</b>	<b>Equipment Description</b>	<b>Add-on control device</b>
EU9-2	COGEN2	Rotary Car Dumper/Truck Dump Building Unit 1	Baghouse
EU9-3	COGEN3	Rotary Car Dumper/Truck Dump Building Unit 2	Baghouse
EU9-4	COGEN4	Coal Storage Dome/Reclaim Tunnel	Baghouse
EU9-5	COGEN5	Crusher Tower	Baghouse
EU9-6	COGEN6	Powerhouse Bunker Bay	Baghouse
EU9-7	COGEN7	Fly Ash Transfer/Storage Unit 1	Baghouse
EU9-8	COGEN8	Fly Ash Transfer/Storage Unit 2	Baghouse
EU9-9	COGEN9	Bottom Ash Collection Unit 1	Baghouse
EU9-10	COGEN10	Bottom Ash Collection Unit 2	Baghouse
EU9-11	COGEN11	Bottom Ash Transfer/Storage Unit 1	Baghouse
EU9-12	COGEN12	Bottom Ash Transfer/Storage Unit 2	Baghouse
EU9-13	COGEN13	Limestone Storage Unit 1	Baghouse
EU9-14	COGEN14	Limestone Storage Unit 2	Baghouse
EU9-15	COGEN15	Limestone Transfer Unit 1	Baghouse
EU9-16	COGEN16	Limestone Transfer Unit 2	Baghouse

(2) The operation of each dry dust collector (baghouse) identified in Condition XIII.(L)(1) shall be in accordance with the following requirements: {Title 129, Chapters 4 and 19}

- (a) The dry dust collectors shall be operated whenever the associated emission units are in operation.
- (b) The dry dust collectors shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the dry dust collectors shall be kept on site and readily available to Department representatives.
- (c) Each dry dust collectors shall be equipped with an operational pressure differential indicator. The pressure differential indicator readings shall be recorded at least once each day that the associated dry dust collector

is operating. The pressure indicator shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the pressure differential indicator shall be kept on site and readily available to Department representatives.

- (d) Dry dust collector filter bags/cartridges are to be inspected and/or replaced according to the operation and maintenance manual, or more frequently as indicated by pressure differential indicator readings or other indication of unit failure.
  - (e) Routine observations (at least once each day during daylight hours of dry dust collector operation) shall be conducted to determine whether there are visible emissions from the stack, leaks, noise, atypical pressure differential readings, or other indications, which may necessitate corrective action. Corrective action shall be taken immediately if necessary.
  - (f) Collected waste material from the dry dust collectors shall be handled, transported, and stored in a manner that ensures compliance with Condition X.
  - (g) The source shall maintain on-site an inventory of spare bags/cartridges of each type used to ensure rapid replacement in the event of bag/cartridge failure.
- (3) The emissions from the coal, fly ash, bed ash and limestone handling, storage, and transport operations shall not exceed the following emission limits in Table 15 (3- hour or test method average). {Title 129, Chapters 4 and 19}

**Table 15. Coal, Ash, and Limestone Handling Emission Limits**

SV #	Equipment Description	PM/PM <sub>10</sub> emissions (lb/hr)
COGEN2	Rotary Car Dumper/Truck Dump Building Unit 1	0.71
COGEN3	Rotary Car Dumper/Truck Dump Building Unit 2	0.71
COGEN4	Coal Storage Dome/Reclaim Tunnel	0.68
COGEN5	Crusher Tower	0.51
COGEN6	Powerhouse Bunker Bay	0.55
COGEN7	Fly Ash Transfer/Storage Unit 1	0.24
COGEN8	Fly Ash Transfer/Storage Unit 2	0.24
COGEN9	Bottom Ash Collection Unit 1	0.08
COGEN10	Bottom Ash Collection Unit 2	0.08
COGEN11	Bottom Ash Transfer/Storage Unit 1	0.08
COGEN12	Bottom Ash Transfer/Storage Unit 2	0.08
COGEN13	Limestone Storage Unit 1	0.21

SV #	Equipment Description	PM/PM <sub>10</sub> emissions (lb/hr)
COGEN14	Limestone Storage Unit 2	0.21
COGEN15	Limestone Transfer Unit 1	0.21
COGEN16	Limestone Transfer Unit 2	0.21

- (4) In order to demonstrate compliance with Condition XIII.(L)(3), the source shall conduct a performance test for PM and PM<sub>10</sub> on each of the Stacks/vents (SV) listed in Condition XIII.(L)(3) as specified in Table 16. The performance test shall be conducted in accordance with Condition XIII.(V). {Title 129, Chapter 34}

**Table 16. Coal, Ash, and Limestone Handling Test Requirements**

SV #	Equipment Description	PM/PM <sub>10</sub> Testing Required
COGEN2	Rotary Car Dumper/Truck Dump Building Unit 1	Yes <sup>1</sup>
COGEN3	Rotary Car Dumper/Truck Dump Building Unit 2	Yes <sup>1</sup>
COGEN4	Coal Storage Dome/Reclaim Tunnel	Yes <sup>1</sup>
COGEN5	Crusher Tower	Yes <sup>1</sup>
COGEN6	Powerhouse Bunker Bay	Yes <sup>1</sup>
COGEN7	Fly Ash Transfer/Storage Unit 1	Yes <sup>2</sup>
COGEN8	Fly Ash Transfer/Storage Unit 2	Yes <sup>2</sup>
COGEN9	Bottom Ash Collection Unit 1	Yes <sup>2</sup>
COGEN10	Bottom Ash Collection Unit 2	Yes <sup>2</sup>
COGEN11	Bottom Ash Transfer/Storage Unit 1	Yes <sup>2</sup>
COGEN12	Bottom Ash Transfer/Storage Unit 2	Yes <sup>2</sup>
COGEN13	Limestone Storage Unit 1	Yes <sup>3</sup>
COGEN14	Limestone Storage Unit 2	Yes <sup>3</sup>
COGEN15	Limestone Transfer Unit 1	Yes <sup>3</sup>
COGEN16	Limestone Transfer Unit 2	Yes <sup>3</sup>

<sup>1</sup> Initial performance testing is required for SV#COGEN2, COGEN3, COGEN4, COGEN5, and COGEN6; however, only COGEN2 must be tested if the performance test demonstrates compliance. If the test indicates non-compliance, the other emission points shall be tested to independently verify compliance.

<sup>2</sup> Initial performance testing is required for SV#COGEN7, COGEN8, COGEN9, COGEN 10, COGEN11 and COGEN12; however, only COGEN7 must be tested if the performance test demonstrates compliance. If the test indicates non-compliance, the other emission points shall be tested to independently verify compliance.

<sup>3</sup> Initial performance testing is required for SV#COGEN13, COGEN14, COGEN15, and COGEN16; however, only COGEN13 must be tested if the performance test demonstrates compliance. If the test indicates non-compliance, the other emission points shall be tested to independently verify compliance.

- (5) The requirements of the NSPS for Coal Preparation Plants in 40 CFR 60, Subparts A and Y {Title 129, Chapter 18, Sections 001.01 and 001.08} apply to

all thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems operations at this facility (EU9-4, EU9-5, and EU9-6). These requirements include, but are not limited to, the following:

- (a) Opacity of visible emissions from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system shall not exhibit 20 percent opacity or greater. {40 CFR 60.252(c)}
- (b) The opacity of the coal processing and conveying equipment, coal storage system, and coal transfer and loading system shall be measured within 90 days of start-up to demonstrate compliance with the opacity limit given in Condition XIII.(L)(5)(a). Compliance Method 9 specified in 40 CFR 60.11 shall be used to measure opacity {40 CFR 60.254(b)(2)}.

(M) The following conditions apply to: COOLING TOWERS

- (1) The four cooling towers (EU13-E1-6, EU13-F1-3, EU9-17-18, and EU9-19-22) shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the cooling towers shall be kept on site and readily available to Department representatives. {Title 129, Chapters 4 and 19}
- (2) The drift loss for EU13-E1-6 and EU13-F1-3 shall not exceed 0.008 percent. The drift loss for EU9-17-18 and EU9-19-22 shall not exceed 0.0005 percent. Verification of drift loss will be by manufacturer's guarantee. Manufacturer's drift loss guarantee shall be kept on site and readily available to Department representatives, upon request. {Title 129, Chapters 4 and 19}
- (3) The TDS concentration in the cooling water shall not exceed 2,500 ppm for any single sampling event. A TDS sample shall be collected from each cooling tower and tested at a minimum of once per calendar month. {Title 129, Chapters 4 and 19}

(N) The following conditions apply to: EQUIPMENT LEAKS

- (1) The requirements of the NSPS for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry in 40 CFR, Subparts A and VV {Title 129, Chapter 18, Sections 001.01 and 001.14} apply to all affected equipment. The requirements include, but are not limited to, the following:
  - (a) Equipment subject to 40 CFR 60 Subpart VV shall be each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by Subpart VV. {40 CFR 60.481}
  - (b) Compliance with NSPS, Subpart VV shall be demonstrated for all equipment within 180 days of initial startup. {40 CFR 60.482-1}

- (c) Test methods and procedures shall be consistent with the requirements found in 40 CFR 60.485. The methods include:
    - (i) Method 21 shall be used to determine the presence of leaking sources. {40 CFR 60.485(b)(1)}
    - (ii) Method 21 shall be used to determine the background level. {40 CFR 60.485(c)(2)}
    - (iii) Procedures that conform to the general methods in ASTM E-260, E-168, E-169 (incorporated by reference – see § 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment. {40 CFR 60.485(d)(1)}
    - (iv) Standard reference texts or ASTM D-2879 (incorporated by reference – see § 60.17) shall be used to determine the vapor pressure of the components in the liquid in the light liquid service. {40 CFR 60.485(e)(1)}
  - (d) The owner or operator shall report and keep records as described in 40 CFR 60.487 – Reporting requirements and in 40 CFR 60.486 – Recordkeeping requirements. Each owner or operator shall submit semiannual reports to the Department beginning six months after the initial startup date.
  - (e) Emissions shall be controlled by the Leak Detection and Repair Program as defined in 40 CFR 60.482-1 through 60.482-10.
- (O) The following conditions apply to: HAUL ROADS
- (1) All on-site haul roads with production-related truck traffic shall be paved. The paved haul roads shall comply with the following conditions: {Title 129, Chapters 19 and 32}
    - (a) The owner or operator shall develop, maintain, and implement a Truck Traffic Fugitive Control Strategy and Monitoring Plan to control emissions from haul roads to comply with Condition X. At a minimum, the requirements of the Plan shall include the following: {Title 129, Chapters 19 and 32}
      - (i) All paved haul roads shall be cleaned, using a vacuum sweeper, a minimum of three (3) times per week unless weather events are deemed not to warrant such cleaning.
      - (ii) For each day of operation, the owner or operator shall conduct a survey of the plant property and haul roads to determine if visible fugitive emissions are being generated and leaving plant property.

- (iii) Documentation of all fugitive dust control measures implemented, any weather events deemed not to warrant road cleaning, and daily surveys shall be maintained in a log.

(P) The following conditions apply to: EMERGENCY EQUIPMENT

- (1) The emergency fire water-pump engines 1, 2, 3 and 4 (EU-95, EU-96, EU-107, and EU-108), the emergency generator SCU (EU-97), and the emergency generator warehouse 1 (EU-99) shall not exceed 400 operating hours per any period twelve (12) consecutive calendar months each. At no time during the first eleven (11) calendar months after the permit issuance date shall the sum of all the previous months' operating hours exceed 400 hours for each piece of listed emergency equipment. {Title 129, Chapters 4, 19, and 27}
- (2) Only diesel fuel (# 1 and # 2) shall be combusted in the emergency equipment. {Title 129, Chapters 4, 19, 20 and 24}
- (3) The emergency equipment shall be equipped with hour meters to record the operating hours to determine compliance with Condition XIII.(P)(1). The hour meters shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the hour meters shall be kept on site and readily available to Department representatives. {Title 129, Chapter 19}

(Q) The following conditions apply to: WASTEWATER TREATMENT

- (1) Biogas generated from the anaerobic digesters shall be collected and combusted in the anaerobic digester biogas flare (EU10-41) or in Gluten Flash Dryer #1 (EU6-16).
- (2) The biogas flare shall not exceed 2,190 operating hours per any period twelve (12) consecutive calendar months. At no time during the first eleven (11) calendar months after permit issuance shall the sum of all the previous months' operating hours exceed 2,190 hours. The pilot for the flare may operate continuously. {Title 129, Chapter 19}
- (3) The biogas flare shall be equipped with an hour meter or equivalent tracking system to record the operating hours to determine compliance with Condition XIII.(Q)(2). The hour meter shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the hour meter shall be kept on site and readily available to Department representatives. {Title 129, Chapter 19}
- (4) The biogas flare shall be properly designed, installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the wastewater treatment tanks and flare shall be kept on site and readily available to Department representatives.

- (R) The following conditions apply to: SODA ASH RECEIVING AND HCl STORAGE AND RECEIVING
- (1) HCl emissions from the HCl storage tanks shall be controlled by the acid gas scrubber (EU8-91). PM emissions from Soda Ash Receiving (EU8-63) shall be controlled by a wet scrubber. {Title 129, Chapters 19 and 27}
  - (2) The operation of the scrubbers shall be in accordance with the following requirements: {Title 129, Chapter 27}
    - (a) The scrubbers shall be operated at all times when the material unloading is occurring.
    - (b) The scrubbers shall be properly designed, installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the scrubber shall be kept on site and readily available to Department representatives.
    - (c) The scrubbers shall be equipped with indicators of scrubbing liquid flow rate and pressure differential. Operating parameter readings shall be recorded at least once each day the scrubbers are in operation. The indicators shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the operating parameter indicators shall be kept on site and readily available to Department representatives.
    - (d) Routine observations (at least once each day of scrubber operation) shall be conducted to determine whether there are leaks, noise, atypical operating parameters (e.g., scrubbing liquid flow rate), or other indications that may necessitate corrective action.
  - (3) PM and PM<sub>10</sub> emissions from the Soda Ash Receiving scrubber vent (SV-63) shall not exceed 0.085 lbs/hr (3-hour or test method average). {Title 129, Chapter 19}
  - (4) In order to demonstrate compliance with Condition XIII.(R)(3), the source shall conduct a performance test for PM and PM<sub>10</sub> on SV-63. The performance test shall be conducted in accordance with Condition XIII.(V). {Title 129, Chapter 34}
- (S) The following conditions apply to the LIME SILO BIN VENT:
- (1) PM and PM<sub>10</sub> emissions from the lime silo bin (EU13-62) shall be captured and controlled by the lime silo bin baghouse. {Title 129, Chapters 4 and 19}
  - (2) The operation of the dry dust collector (baghouse) shall be in accordance with the following requirements: {Title 129, Chapters 4 and 19}

- (a) The dry dust collector shall be operated whenever the associated emission units are in operation.
  - (b) The dry dust collector shall be properly installed, operated and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the dry dust collector shall be kept on site and readily available to Department representatives.
  - (c) The dry dust collector shall be equipped with an operational pressure differential indicator. The pressure differential indicator readings shall be recorded at least once each day that the associated dry dust collector is operating. The pressure indicator shall be properly installed, operated, calibrated, and maintained. The manufacturer's operation and maintenance manual, or its equivalent, detailing proper operation, inspection and maintenance of the pressure differential indicator shall be kept on site and readily available to Department representatives.
  - (d) Dry dust collector filter bags/cartridges are to be inspected and/or replaced according to the operation and maintenance manual, or more frequently as indicated by pressure differential indicator readings or other indication of unit failure.
  - (e) Routine observations (at least once each day during daylight hours of dry dust collector operation) shall be conducted to determine whether there are visible emissions from the stack, leaks, noise, atypical pressure differential readings, or other indications, which may necessitate corrective action. Corrective action shall be taken immediately if necessary.
  - (f) Collected waste material from the dry dust collectors shall be handled, transported, and stored in a manner that ensures compliance with Condition X.
  - (g) The source shall maintain on-site an inventory of spare bags/cartridges of each type used to ensure rapid replacement in the event of bag/cartridge failure.
- (3) The PM and PM<sub>10</sub> emissions from the lime silo bin baghouse vent (SV-62) shall not exceed 0.13 pounds per hour (3-hour or test method average). {Title 129, Chapters 4, 19, and 20}.
  - (4) In order to demonstrate compliance with Condition XIII.(S)(3), the source shall conduct a performance test for PM and PM<sub>10</sub> on the lime silo bin baghouse vent (SV-62). The performance test shall be conducted in accordance with Condition XIII.(V). {Title 129, Chapter 34}
- (T) The requirements of the NESHAP for Miscellaneous Organic Chemical Manufacturing in 40 CFR 63, Subpart FFFF {Title 129, Chapter 28, Section 001.78} apply to the miscellaneous organic chemical manufacturing process units at this source (including all

storage tanks, transfer stations, pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems used in the ethanol manufacturing process). The requirements include, but are not limited to, the following:

- (1) The emission limits, work practice standards, and compliance requirements pursuant to 40 CFR 63.2450-63.2490.
  - (2) The notification, reporting, and recordkeeping requirements pursuant to 40 CFR 63.2515-63.2525.
- (U) The following conditions apply to the verification of the NAAQS modeling analysis {Title 129, Chapters 4 and 19}
- (1) Stack heights shall not be less than the heights above ground level presented in Table 17 (ground level basis of 1422 feet above sea level): {Title 129, Chapters 4 and 19}

**Table 17. Stack Height Requirements**

<b>Equipment Description</b>	<b>SV #</b>	<b>Minimum Stack Height (m)</b>
Corn Receiving (East Truck Unloading Pits #1 and #2)	1	50
Corn Receiving (West Truck Unloading Pits #3 and #4)	2	50
Coal-fired boiler # 1 and 2	COGEN1	90
Germ Cooler # 1, 2, and 3	9	65
Germ Cooler # 4	12	65
Gluten Cooler # 1 and 2	17	65
Gluten Recycle	44	27.99
Corn Cleaner	4	43.71
Millhouse/Feedhouse	5	41.68
Starch Dryer # 1	6	65
Germ Dryer # 1-3	7	65
Fluidized Bed Germ Dryer #1	8	65
Gluten Flash Dryer # 1	16	65
Gluten Flash Dryer # 2	18	65
Biogas Flare	41	25
Fiber Dewatering	43	40
Starch Dryer #2	45	33.52
Boiler #5	98	38.25
Rotary Car Dumper/Truck Dump Building Unit 1	COGEN2	25
Rotary Car Dumper/Truck Dump Building Unit 2	COGEN3	25
Coal Storage Dome/Reclaim Tunnel	COGEN4	25
Crusher Tower	COGEN5	25
Powerhouse Bunker Bay	COGEN6	40

<b>Equipment Description</b>	<b>SV #</b>	<b>Minimum Stack Height (m)</b>
Fly Ash Transfer/Storage Unit 1	COGEN7	25
Fly Ash Transfer/Storage Unit 2	COGEN8	25
Bottom Ash Collection Unit 1	COGEN9	15
Bottom Ash Collection Unit 2	COGEN10	15
Bottom Ash Transfer/Storage Unit 1	COGEN11	20
Bottom Ash Transfer/Storage Unit 2	COGEN12	20
Limestone Storage Unit 1	COGEN13	25
Limestone Storage Unit 2	COGEN14	25
Limestone Transfer Unit 1	COGEN15	20
Limestone Transfer Unit 2	COGEN16	20
EU9-17-18	COGEN17	10
EU9-19-22	COGEN19	13

- (2) The source shall sufficiently restrict public access to the facility at the ambient air boundary relied upon in the modeling analysis for the NAAQS compliance demonstration. An ambient air restriction plan detailing the measures for restricting public access (such as fencing) shall be submitted to the Department within 120 days of permit issuance.
- (3) A site survey or similar documentation demonstrating compliance with the stack height limitations per Condition XIII.(U)(1) shall be kept on site and readily available to Department representatives within 365 days after the permit issuance date; or for any new or modified emission unit constructed after this date, within 180 days following start-up of the new or modified emission unit.
- (4) A site survey or similar documentation demonstrating compliance with the restricted public access provisions of Condition XIII.(U)(2) shall be kept on site and readily available to Department representatives within 180 days after the permit issuance date. The site survey or similar documentation shall provide sufficient detail to verify that an ambient air restriction plan has been fully implemented.
- (V) The performance tests required in the permit must be completed and submitted to the Department as follows: {Title 129, Chapter 34, Section 001}
- (1) Unless otherwise specified in this permit, the performance tests shall be conducted while operating at full capacity within 60 days after reaching the maximum capacity but not more than 180 days after the start up of operations.
- (2) Testing methods shall be from 40 CFR 60 Appendix A, or other method approved by the NDEQ.
- (3) An emissions testing protocol shall be submitted to the Department at least 45 days prior to testing.

- (4) The owner or operator of a source shall provide the Department 30 days notice prior to testing to afford the Department an opportunity to have an observer present.
- (5) The source shall monitor the operating parameters for process and control equipment during the performance testing required in the permit (e.g., production rate, liquid flow rate and pressure differential during testing of the scrubber). The operating parameters shall be submitted with the test results.
- (6) A certified written copy of the test results signed by the person conducting the test shall be provided to the Department within 45 days of completion of the test.

(W) The following conditions apply to: MONITORING AND RELATED RECORDKEEPING AND REPORTING REQUIREMENTS

Records of all limits, measurements, results, inspections, and observations listed in Conditions XIII.(A) through XIII.(V), as required to ensure compliance with this permit shall be maintained. Calculations and records shall be completed no later than the last day of each calendar month through the previous calendar month. Records shall be kept on-site for a minimum of five years, unless otherwise specified in this permit. These records shall be clear and readily accessible to Department representatives and shall include the following:

- (1) Inspection and maintenance records for each baghouse dust collector as identified in, and to demonstrate compliance with, Conditions XIII.(A)(3), (E)(3), (K)(3), (L)(2) and (S)(2). These records shall include the following:
  - (a) Records documenting when routine observations were performed with a description, including operating parameters (e.g., pressure differential readings) and any atypical observations.
  - (b) Records documenting when routine maintenance and preventive actions were performed with a description of the maintenance and/or preventive action conducted.
  - (c) Filter replacement records including number of replaced filters, type, and date of filter installation.
  - (d) Records documenting equipment failures, malfunctions, or other variations, including time of occurrence, remedial action taken, and when corrections were made.
- (2) Inspection and maintenance records each scrubber as identified in, and to demonstrate compliance with, Conditions XIII.(B)(2), (D)(5), (F)(2), (I)(3) and (R)(2). These records shall include the following:
  - (a) Records documenting when routine observations were performed with a description, including operating parameters (e.g., pressure differential readings, scrubbant flow rates) and any atypical observations.

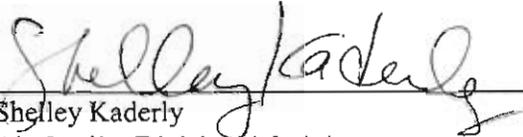
- (b) Records documenting when routine maintenance and preventive actions were performed with a description of the maintenance and/or preventive action performed.
  - (c) Records documenting equipment failures, malfunctions, or other variations, including time of occurrence, remedial action taken, and when corrections were made.
- (3) As designated in Title 129, Chapter 18, Section 001.62, Volatile Organic Liquid Storage Vessels (including petroleum storage vessels) – Subpart Kb, Reporting and Recordkeeping Requirements {40 CFR 60.115b}, records to demonstrate compliance with Condition XIII.(G)(2).
- (4) Operation and maintenance record for the vapor recovery system, flare, and safety device or flame monitoring system for the liquid product loadout stations, to demonstrate compliance with Condition XIII.(H)(2), shall include the following:
  - (a) Records documenting when routine maintenance and preventive actions were conducted with a description of the maintenance and/or preventive action conducted.
  - (b) Records documenting equipment failures, malfunctions, or other variations, including time of occurrence, remedial action taken, and when corrections were made.
- (5) The date when the burner in boiler #1 was replaced, and the manufacturer's documentation of the replacement burner to demonstrate compliance with Condition XIII.(J)(2).
- (6) As designated in Title 129, Chapter 18, Section 001.22, Industrial-Commercial-Institutional Steam Generating Units –Subpart Db, Recordkeeping Requirements {40 CFR 60.49b}, records to demonstrate compliance with Conditions XIII.(J)(4) and (K)(7).
- (7) Fuel receipts for natural gas, diesel, coal, petroleum coke, and TDF from the suppliers to demonstrate compliance with Conditions XIII.(J)(4)(f), (K)(7)(f), and (P)(2).
- (8) As designated in Title 129, Chapter 28, Section 001.90, Commercial, Industrial, and Institutional Boilers and Process Heaters – Subpart DDDDD, Recordkeeping Requirements {40 CFR 63.7555}, records to demonstrate compliance with Conditions XIII.(J)(5), (J)(6) and (K)(8).
- (9) Operation and maintenance records for each cooling tower, to demonstrate compliance with Condition XIII.(M)(1), shall include the following:
  - (a) Records documenting when routine maintenance and preventive actions were performed with a description of the maintenance and/or preventive action performed.

- (b) Records documenting equipment failures, malfunctions, or other variations, including time of occurrence, remedial action taken, and when corrections were made.
- (10) Manufacturer's drift loss guarantee to demonstrate compliance with Condition XIII.(M)(2). This record shall be kept for the life of the equipment.
  - (11) TDS concentration in cooling water for each sampling event to demonstrate compliance with Condition XIII.(M)(3).
  - (12) As designated in Title 129, Chapter 18, Section 001.14, Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry – Subpart VV, Recordkeeping Requirements {40 CFR 60.486}, records to demonstrate compliance with Condition XIII.(N)(1).
  - (13) Records documenting use of fugitive dust control measures on haul roads, such as when water spraying is applied, to demonstrate compliance with Conditions X. and XIII.(O)(1)(a).
  - (14) Record of haul road visible emissions checks taken daily during operation and a description of corrective action taken to demonstrate compliance with Condition XIII.(O)(1)(b).
  - (15) Hours of operation for each piece of emergency equipment for each calendar month and for each period of twelve (12) consecutive calendar months to show compliance with Condition XIII.(P)(1).
  - (16) Hours of operation for the biogas flare for each calendar month and for each period of twelve (12) consecutive calendar months to show compliance with Condition XIII.(Q)(2).
  - (17) Operation and maintenance records for the wastewater treatment tanks and biogas flare to demonstrate compliance with Condition XIII.(Q)(4), which shall include the following:
    - (a) Records documenting when routine maintenance and preventive actions were performed with a description of the maintenance and/or preventive action performed.
    - (b) Records documenting equipment failures, malfunctions, or other variations, including time of occurrence, remedial action taken, and when corrections were made.
  - (18) As designated in Title 129, Chapter 28, Section 001.78, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing – Subpart FFFF, Recordkeeping Requirements {40 CFR 63.2430}, records to demonstrate compliance with Condition XIII.(T).

- (19) Site survey or similar documentation demonstrating compliance with the stack height limitations per Condition XIII.(U)(1) and the restricted public access provisions per Condition XIII.(U)(2). These records shall be kept for the life of the equipment.
- (20) Calibration records for all operating parameter monitoring equipment.
- (21) Copies of all notifications, reports, plans, and test results submitted to the Department.
- (22) Manufacturer's operation and maintenance manual, or its equivalent regarding design, installation, operation, and maintenance for all permitted equipment. These records shall be kept for the life of the equipment.

The undersigned issues this document on behalf of the Director in accordance with Title 129 – Nebraska Air Quality Regulations.

8/4/06  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Shelley Kaderly  
Air Quality Division Administrator

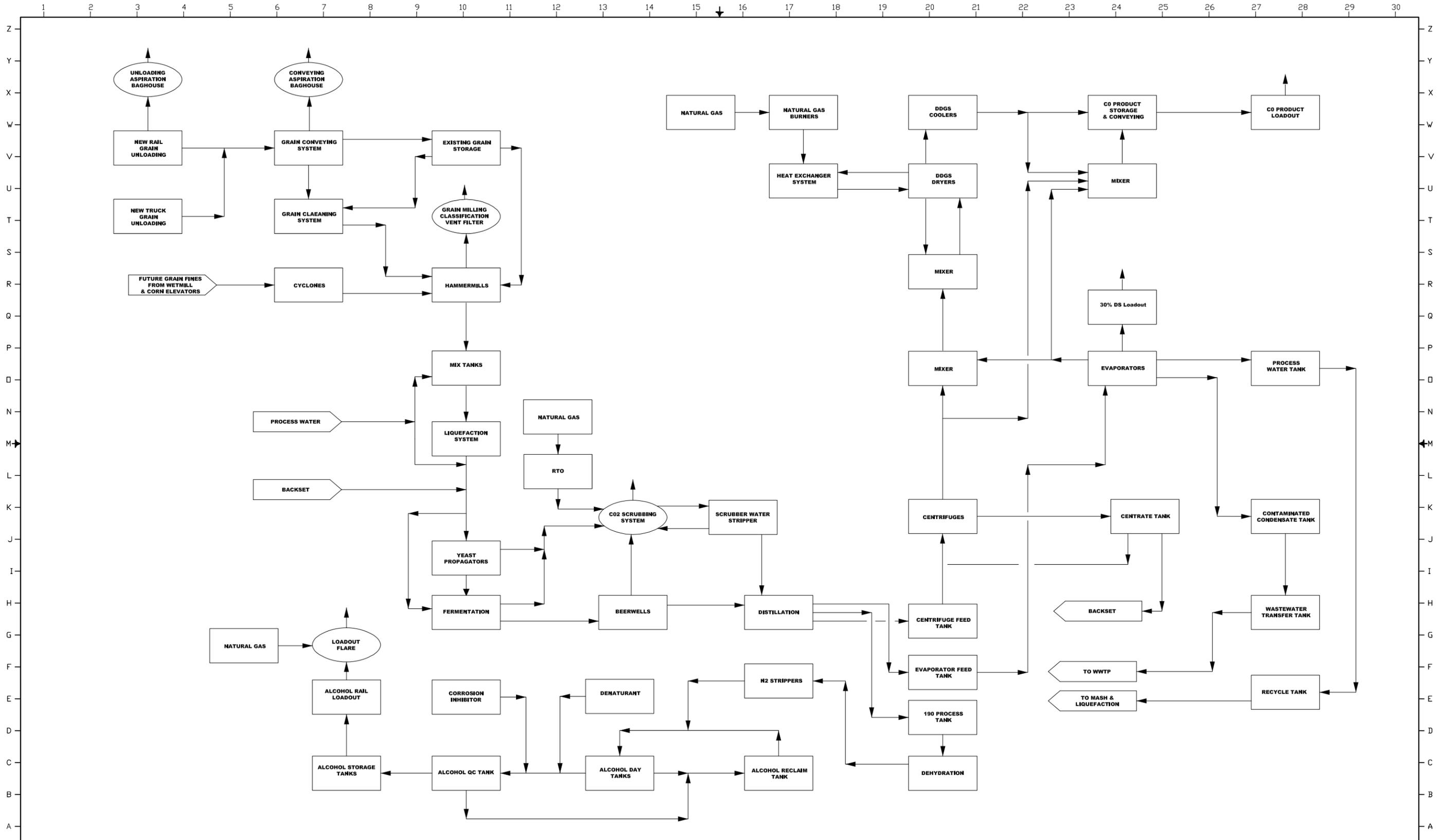
Appendix C  
CA-GREET Electronic Files

## **References:**

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(2) Industrial Technologies Program. 2004. Consider Installing High Pressure Boilers with Backpressure Turbine-Generators. Steam Tip Sheet #22. <http://www.nrel.gov/docs/fy04osti/36924.pdf>.



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10/05/10	A	REDRAWN / ISSUED FOR REVIEW									

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DRAWN BY:	JAF
CHECKED BY:	K. GASSEN
APPROVED BY:	SCOTT HARVEY



PROCESS FLOW					
ADM COLUMBUS, NE. PLANT DRY MILL BLOCK FLOW DIAGRAM					
PROJECT AREA		DRAWING NUMBER			
COLUMBUS, NE. PLANT		D	4200-PF-001		0
Size	Area	Type	Sequence	Rev.	