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Governor

STATE OF NEBRASKA

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AIR QUALITY CONSTRUCTION PERMIT

PERMIT NUMBER: CP12-002

Facility Name: Husker Ag, LLC

NDEQ Facility ID#: 73356

Mailing Address:
54048 Highway 20
Plainview, Nebraska 68769-4072

Facility Location:
54048 Highway 20
Plainview, Nebraska 68769-4072

Permit Description: MINOR PERMIT REVISION for an ethanol manufacturing plant producing approximately 76 million gallons of denatured ethanol annually

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

Revised or Superseded Construction Permits: This construction permit supersedes permit CP07-0031 (issued October 4, 2007) in its entirety, supersedes permit CP08-018b (issued May 8, 2008) in its entirety, and revises conditions II.(B)(1), II.(C), III.(A), III.(B), III.(K) of permit CP06-0035 (issued April 9, 2007). No other terms or conditions of permit CP06-0035 are being revised or otherwise modified by this document. All other provisions of permit CP06-0035 are still in effect, and in concert with this permit, constitute the effective construction permit.

Pursuant to Title 129 – Nebraska Air Quality Regulations, Chapter 14, this minor permit revision is being issued without public notice or the opportunity for public comment. This construction permit approves the proposed revisions as identified in the air quality construction permit application #12-002 received January 25, 2012, including any supporting information received prior to issuance of this permit. Additional details of the proposed revision, including estimated pollutant emission changes, can be found in the accompanying Fact Sheet.

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 June 15, 2011.

2/24/2012
Date

Shelley Schneider
Shelley Schneider, Air Administrator
Air Quality Division

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II.(B) The following conditions apply to the verification of NAAQS modeling analysis: {Chapter 4}

(1) Stack heights shall not be less than the following heights above ground level. A site survey or similar documentation demonstrating compliance with the stack height requirements shall be kept on site and a copy submitted to the Department within 180 days after initial startup of operations.

Emission Point ID#	Emission Point Name	Minimum Stack Height (ft)
FX-1112	Unloading Baghouse	20
FX-1310	Hammermilling Baghouse #1	19
FX-1310B	Hammermilling Baghouse #2	27
S-40	Fermentation (CO_2) Scrubber #1	45
S-40B	Fermentation (CO_2) Scrubber #2	45
E-9401	TO/HRSG #1	125
E-9401B	TO/HRSG #2	125
S-7501	DDGS Cooling System	35
FX-7508	DDGS Baghouse	9
S-50	Ethanol Loadout Flare	25
S-11	Biomethanator Flare #1	21
S-11B	Biomethanator Flare #2	21
S-80	Cooling Tower #1	32
S-80B	Cooling Tower #2	45
EP-110	Emergency Fire Pump	11

II.(C) Testing: Performance tests, when required by NDEQ, shall be completed and submitted to the NDEQ as follows: {Title 129, Chapter 34}

(1) Performance tests shall be conducted while operating at full capacity, 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.

(5) The owner or operator shall provide the NDEQ with an emissions testing protocol at least thirty (30) days prior to testing.

(6) The owner or operator shall monitor and record the operating parameters for process and control equipment during the performance testing required in the permit.

(7) 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 or combustion equipment, fuel usage, etc.) control equipment parameters (i.e., baghouse fan speeds, scrubber liquid flow rates, chemical addition flow rates (if used), 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) Facility-wide potential emission calculations, utilizing the results obtained from the performance test, verifying that the facility is a synthetic minor source with respect to the Federal PSD program for PM, PM_{10}, NOx, SOx, CO, and VOC.

III.(A) Specific Conditions for Grain Receiving, Conveying, Milling, and Loadout

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

Emission Point ID#	Associated Emission Units
FX-1112	Rail and Truck Unloading Pit, Conveyors, Grain Elevator, Four Grain Storage Bins, Two Day Storage Bins, Grain Scalper, Unloading Baghouse
FX-1310	One Hammermill, Conveyors, Milling Baghouse
FX-1310B	Two Hammermills, Conveyors, Milling Baghouse
FX-7508	DDGS Storage, Conveyors, Elevator Leg, Truck and Rail Loadout, DDGS Baghouse

(2) Emission Limitations and Testing Requirements

The emissions from the emission points identified below shall conform to the following permitted limits. All initial performance testing conducted shall be in accordance with Specific Condition II.(C).

Emission Point ID#	Pollutant	Permitted Limit	Averaging Period	Basis for Permit Limit	Testing Required (Yes/No)
FX-1112	PM	0.56 lb/hr	3-hour or test method average	Chapter 19	No [1]
FX-1310	PM	0.30 lb/hr	3-hour or test method average	Chapter 19	No [1]
FX-1310B	PM	0.30 lb/hr	3-hour or test method average	Chapter 19	No [1]
FX-7508	PM	0.32 lb/hr	3-hour or test method average	Chapter 19	No [1]

[1] Testing of these units has been completed. Refer to Operating Permit for current testing requirements.

(2) Operational and Monitoring Requirements and Limitations

(a) PM emissions from all grain receiving, handling, storing, and milling operations shall be captured and controlled by the following baghouses: {Chapters 4, 19 and 20}

FX-1112: Unloading Baghouse
FX-1310: Hammermilling Baghouse #1
FX-1310B: Hammermilling Baghouse #2
FX-7508: DDGS Baghouse

(b) Grain receiving and DDGS loadout operations shall occur within a building to minimize fugitive emissions. {Chapter 19 and 20}

(c) Operation of each dry dust collectors (baghouses) shall be in accordance with the following requirements: {Chapters 19 and 20}

(i) The dry dust collectors shall be operated whenever the associated emission units are in operation.

(ii) 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.

(iii) 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 equipment shall be kept on site and readily available to Department representatives.

(iv) Dry dust collector filter bags/cartridges/filters are to be inspected and/or replaced according to the operation and maintenance manual or more frequently as indicated by pressure differential indicator readings (baghouses only) or other indication of bag/filter failure.

(v) Routine observations (at least once each day of dry dust collector operation) shall be conducted during daylight hours to determine whether there are visible emissions from the stack or vent filter, leaks, noise, atypical pressure differential readings, or other indications, which may necessitate corrective action. Corrective action shall be taken immediately if necessary.

(vi) Collected waste material from the dry dust collectors (baghouses only) shall be handled, transported, and stored in a manner that ensures compliance with General Condition I.(J).

(vii) The source shall maintain on-site an inventory of spare bags/cartridges/filters of each type used facility-wide to ensure rapid replacement in the event of bag/cartridge/filter failure.

(4) Applicable NSPS, NESHAP and MACT Requirements

No NSPS, NESHAP, or MACT requirements are applicable to grain receiving, milling or DDGS baghouses.

(5) Reporting and Recordkeeping Requirements:

(a) Records documenting when routine observations were performed with a description, including operating parameters (e.g., pressure differential readings) and any atypical observations for each dry dust collector.

(b) Records documenting when routine maintenance and preventive actions were performed with a description of the maintenance and/or preventive action conducted for each dry dust collector.

(c) Filter replacement records including filter position, type, and date of filter installation for each dry dust collector.

(d) Records documenting equipment failures, malfunctions, or other variations, including time of occurrence, remedial action taken, and when corrections were made for each dry dust collector. Reporting to the Department shall be in accordance with Chapter 35, Section 005.

III.(B) Specific Conditions for Fermentation Operations

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

Emission Point ID#	Associated Emission Units
S-40	Four Fermentation Tanks and Beer Well Two CO_2 Scrubbers (in parallel) venting to a single stack
S-40B	Four Fermentation Tanks and Beer Well One CO_2 Scrubber

(2) Emission Limitations and Testing Requirements

The emissions from the emission points identified below shall conform to the following permitted limits. All initial performance testing conducted will be in accordance with Specific Condition II.(C).

Emission Point ID#	Pollutant	Permitted Limit	Averaging Period	Basis for Permit Limit	Testing Required (Yes/No)
S-40	VOC	6.58 lb/hr expressed as weight of VOC	3-hour or test method average	Chapter 19	No[1]
	HAP	65% Control Efficiency or 20.0 ppmvd for combined HAPs	Speciation and Quantification of HAP composition at inlet and outlet	Chapter 27	No[1]
S-40B	VOC	10.05 lb/hr expressed as weight of VOC	3-hour or test method average	Chapter 19	No[1]
	HAP	65% Control Efficiency or 20.0 ppmvd for combined HAPs	Speciation and Quantification of HAP composition at inlet and outlet	Chapter 27	No[1]

[1] VOC and HAP testing for these emission points has been completed. Refer to Operating Permit for current testing requirements.

(3) Operational and Monitoring Requirements and Limitations

(a) VOC and HAP emissions from the fermentation operations shall be controlled by the use of wet scrubbers with chemical addition as follows: {Chapters 17 and 27}

S-40: Two Fermentation (CO_2) Scrubbers in parallel
S-40B: Fermentation (CO_2) Scrubber

(i) The source may demonstrate through testing performed in accordance with Condition II.(C), or the use of a CEMS, that chemical addition is not necessary. Testing completed within the 12 month period preceding the issuance date of this permit, and

approved by the NDEQ, may be used to demonstrate chemical addition is not necessary. {Chapter 17, Chapter 27, and Chapter 34}

(b) Operation and maintenance of each fermentation scrubbers shall be in accordance with the following requirements {Chapters 17 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 scrubbers 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 scrubbers shall be kept on site and readily available to Department representatives.

(iii) The scrubbers shall be equipped with devices capable of continuously monitoring operating parameters including, at a minimum, the scrubbing liquid temperature, scrubbing liquid flow rate, chemical addition flow rate, and pressure differential. Except for scrubbing liquid and chemical addition flow rates, operating parameter readings shall be recorded at least once each day the scrubber is in operation. The scrubber liquid flow rate shall be recorded continuously. When chemical is added to the scrubbing liquid, the flow rate of the chemical being added shall be recorded continuously.

(iv) 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 provided the facility can justify, through testing or the use of a CEMS, 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.

(v) 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
No NSPS, NESHAP, or MACT requirements are applicable to the scrubbers.

(5) Recordkeeping and Reporting Requirements

(a) Records documenting when routine observations were performed on the scrubbers with a description, including operating parameters (e.g., scrubber liquid flow rate) and any atypical observations.

(b) Records documenting scrubbing liquid flow rate, including hourly average flow rates, while the associated emission units are in operation.

(c) Records documenting when routine maintenance and preventive actions were performed on the scrubbers with a description of the maintenance and/or preventive action performed.

(d) Records documenting equipment failures, malfunctions, or other variations, including time of occurrence, remedial action taken, and when corrections were made on the scrubbers. Reporting to the Department shall be in accordance with Chapter 35, Section 005.

III.(K) Specific Conditions for Storage Tanks

(1) Description of Emission Points: The source is permitted to construct the storage tanks identified in the following table at the capacity and for the product listed:

Emission Point ID#	Associated Emission Units (Unit ID#: Product Stored)	Tank Type	Maximum Capacity
T-8201	190-Proof Ethanol	Vertical Fixed Roof	39,000 gallons
T-8203	200-Proof Ethanol	Vertical Fixed Roof	39,000 gallons
T-8204	200-Proof Ethanol	Vertical Fixed Roof	39,000 gallons
T-8206	Denaturant	Internal Floating Roof	39,000 gallons
T-8207	Denatured Ethanol	Internal Floating Roof	775,000 gallons
T-8208	Denatured Ethanol	Internal Floating Roof	675,000 gallons
T-8401	190-Proof Ethanol	Internal Floating Roof	100,000 gallons
T-8403	200-Proof Ethanol	Internal Floating Roof	100,000 gallons
T-8422	Denatured Ethanol	Internal Floating Roof	500,000 gallons
T-8423	Denatured Ethanol	Internal Floating Roof	500,000 gallons
T-8414	Denaturant	Internal Floating Roof	100,000 gallons

(2) Emission Limitations and Testing Requirements

No emission limitations or testing requirements apply to the storage tanks.

(3) Operational and Monitoring Requirements and Limitations

The storage tanks listed above, except T-8201, T-8203, and T-8204, shall be equipped with internal floating roofs utilizing a vapor mounted primary seal.

(4) Applicable NSPS, NESHAP, and MACT Requirements

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

(5) Recordkeeping and Reporting Requirements

(a) Notifications and recordkeeping as required by 40 CFR 60.7.

(b) Reporting and recordkeeping as required by 40 CFR 60.115b.