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AIR QUALITY CONSTRUCTION PERMIT

PERMIT NUMBER: CP08-018j

Facility Name: Elkhorn Valley Ethanol LLC

NDEQ Facility ID#: 84534

Mailing Address: 3002 N Victory Rd, Norfolk, NE

Facility Location: Norfolk, NE

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

REOPEN FOR CAUSE PERMIT REVISION to: Construction Permit Issued September 29, 2005

This construction permit: standardizes the testing requirements with those of similar ethanol production facilities; places additional control requirements on the emissions originating from the fermentation process; standardizes the monitoring and recordkeeping requirements with those of similar ethanol production facilities; requires that the scrubbing liquid and chemical addition flow rates be continuously recorded; and provides for a compliance schedule for the installation of new equipment. No other terms or conditions of construction permit issued on September 29, 2005 are being revised or otherwise modified by this permit. All other provisions of the original permit are still in effect, and in concert with this permit, constitute the effective construction permit.

Additional details of the revision can be found in the accompanying Fact Sheet.

Pursuant to Chapter 14 and Chapter 15 of the Nebraska Air Quality Regulations, the public has been notified by prominent advertisement of this reopen for cause permit revision and the fifteen (15) day period allowed for comments has elapsed.

The undersigned issues this permit on behalf of the Director under the authority of Title 129 – Nebraska Air Quality Regulations as amended February 16, 2008.

5/8/08
Date


Shelley Kaderly, Air Administrator
Air Quality Division

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I. ABBREVIATIONS, SYMBOLS, and UNITS OF MEASURE

AP-42	Compilation of Air Pollutant Emission Factors, Volume I, Stationary Point and Area Sources	NAAQS NDEQ	National Ambient Air Quality Standards Nebraska Department of Environmental Quality
BACT	Best Available Control Technology	NESHAP	National Emission Standards for Hazardous Air Pollutants
bhp	Brake Horsepower	NO ₂	Nitrogen Dioxide
Btu	British Thermal Unit	NO _x	Nitrogen Oxides
bu	Bushel	NSPS	New Source Performance Standard
CAA	Clean Air Act	NSR	New Source Review
CE	Control Equipment		
CEM	Continuous Emissions Monitor	PAL	Plant-wide Applicability Limit
CEMS	Continuous Emissions Monitoring System	Pb	Lead
cf	Cubic feet	PbR	Permit-by-Rule
CFR	Code of Federal Regulations	PE	Professional Engineer
CO	Carbon Monoxide	PM	Particulate Matter
CO ₂	Carbon Dioxide	PM ₁₀	Particulate Matter with and aerodynamic diameter equal to or less than 10 microns
CP	Construction Permit	PM _{2.5}	Particulate Matter with and aerodynamic diameter equal to or less than 2.5 microns
DDGS	Dry Distillers Grains with Solubles	ppb	Parts per Billion
dscf	Dry Standard Cubic feet	ppm	Parts per Million
dscfm	Dry Standard Cubic feet per minute	ppmv	Parts per Million by Volume
EMIS	Emergency Management Information System	PSD	Prevention of Significant Deterioration
EPA	Environmental Protection Agency	PTE	Potential to Emit
EQC	Environmental Quality Council		
EP	Emission Point	RATA	Relative Accuracy Test Audit
ESP	Electrostatic Precipitator	RMP	Risk Management Plant
EU	Emission Unit	RTO	Regenerative Thermal Oxidizer
FGR	Flue Gas Recirculation	scf	Standard Cubic Feet
FIP	Federal Implementation Plan	SIC	Standard Industrial Classification
FR	Federal Register	SIP	State Implementation Plan
ft	Feet	SO ₂	Sulfur Dioxide
FTIR	Fourier Transform Infrared	SO _x	Sulfur Oxides
GACT	Generally Available Control Technology	TDS	Total Dissolved Solids
H ₂ S	Hydrogen Sulfide	TO	Thermal Oxidizer
HAP	Hazardous Air Pollutant	tpy	Tons per year
HC	Hydrocarbon	TRS	Total Reduced Sulfur
HP	Horsepower	TSP	Total Suspended Particulate Matter
hr	Hour	ULNB	Ultra Low NO _x Burner
LDAR	Leak Detection and Repair	UST	Underground Storage Tank
LNB	Low NO _x Burner	UTM	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	VHAP	Volatile Hazardous Air Pollutant
Mgal	One thousand gallons	VMT	Vehicle Miles Traveled
MMBtu	Million British Thermal Units	VOC	Volatile Organic Compound
MMscf	One million standard cubic feet		
MSDS	Material Safety Data Sheet		
MW	Megawatt		

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II. SPECIFIC CONDITIONS

- (A) 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:
 - i. 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.
 - ii. Copies of all data sheets from the test run(s)
 - iii. A description and explanation of any erroneous data or unusual circumstance(s) and the cause for such situation
 - iv. A final conclusion section describing the outcome of the testing

III.(A) Specific Conditions for Fermentation

- (1) Permitted Emission Points: The emission points and associated emission units identified in the following table:

Required Control Equipment Description	Emission Unit Description
Wet Scrubber with chemical injection. Chemical addition is not required provided the requirements of Section III.(A)(3)(b) are met.	Fermentation Tanks

- (2) Emission Limitations and Testing Requirements:

Pollutant emission rates from each emission point established in the permit referenced on the signature page of this permit are not changed and shall not be exceeded. Performance testing, if required in the above referenced permit, shall be conducted in accordance with the above referenced permit and Specific Condition II.(A).

- (3) Operational and Monitoring Requirements and Limitations:

Except as provided below, all operational and monitoring requirements and limitations in the permit referenced on the signature page of this permit are still in effect.

- (a) The emissions from the fermentation process shall be controlled through the use of a wet scrubber with chemical addition. {Chapter 17 and Chapter 27}
- (b) The source may demonstrate through testing performed in accordance with Condition II.(A), 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}

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

The applicable NSPS, NESHAP, and MACT requirements established in the permit referenced on the signature page of this permit are applicable.

- (5) Reporting and Recordkeeping Requirements:

Except as provided below, all reporting and recordkeeping requirements in the permit referenced on the signature page of this permit are still in effect.

- (a) Operation and maintenance of each fermentation scrubber 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.

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- (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, chemical addition flow rate, and pressure differential. Except for the scrubbing liquid and chemical addition flow rates, operating parameter readings shall be recorded at least once each day the scrubber is in operation. The scrubbing 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.
- (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 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.
- (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.

III.(B) Compliance Schedule

(1) Compliance Schedule for Chemical Addition Equipment

- (a) Unless the source has testing data demonstrating chemical addition is not necessary, as provided for in Condition III.(A).(3).(b), equipment for continuously recording the scrubbing liquid flow rate and chemical addition flow rate (if chemicals are added) shall be installed by July 10, 2008.