



# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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PAT QUINN, GOVERNOR

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217/785-1705

## CONSTRUCTION PERMIT

### PERMITTEE

Adkins Energy, LLC  
Attn: Chris Posey  
4350 West Galena Road  
Lena, Illinois 61048

Application No.: 14070040

I.D. No.: 177802AAA

Applicant's Designation:

Date Received: July 31, 2014

Subject: Increases in Production Capacity

Date Issued: October 1, 2014

Location: 4350 West Galena Road, Lena, Stephenson County

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of increases in production capacity to 60 million gallons per year and related changes, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This permit authorizes increases in the permitted production capacity of the ethanol plant to 60 million gallons per year, from 50 million gallons per year authorized by the Construction Permit 07110047. This permit also increases the permitted levels of plant emissions and amounts of grain processed, feed produced, and ethanol shipped from the plant. This is because this increase will not entail construction of new equipment and facilities but rather be achieved through enhancement to installed equipment and improvements to operating procedures.
- b. For the purposes of this permit, the "affected plant" is the plant with the permitted increase in the production capacity authorized by this permit.
- 2a. Except as specifically indicated, this permit does not affect applicable requirements for the plant, including applicable requirements, including applicable requirements for testing, monitoring, recordkeeping reporting, identified in the Federally Enforceable Operating Permit for the source, Permit 03060057, which shall now apply to the affected plant.
3. This permit is issued based on this project, i.e., the affected plant with the permitted increase in the production and emissions, not being subject to federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. This is because the potential emissions of each PSD pollutant from the affected plant would be less than the major source threshold of the PSD rules, which is 250 tons per year.
4. At all times, the Permittee shall also, to the extent practicable, maintain and operate the affected plant in a manner consistent with good air pollution control practice for minimizing emissions.

- 5a. The amount of grain processed by the affected plant shall not exceed 61,000 tons/month and 611,000 tons/year.
- b. Ethanol production from the affected plant, determined as denatured ethanol shipped from the loading rack, shall not exceed 6.0 million gallons/month and 60.0 million gallons/year.
- c. Natural gas usage of the affected plant shall not exceed 250 million cubic feet per month and 2,530 million cubic feet per year.
- d. Compliance with these annual limits and other annual limits set by this permit shall be determined from a running total of 12 consecutive months of data, based on the data from each month and the preceding 11 months.

Note: The limitations in Conditions 5(a) and (b) of this permit replace the limitations in Condition 2.1(a) and (b) of Construction Permit, Permit 07110047. The limitation in Condition 5(c) replaces the limitation in Condition 4(b) of Construction Permit 13010031.

6a. Plant-wide Greenhouse Gas Emission

The GHG emissions of the plant, as carbon dioxide equivalent (CO<sub>2</sub>e) excluding biogenic CO<sub>2</sub> shall not exceed 15,000 tons/month and 150,000 tons/year.

Note: These limits replace the limitations in Condition 5(b) in Permit 13010031.

b. Fermentation tanks and beer well

- i. The fermentation tanks and beer well shall continue to comply with the control requirement of Condition 1.6(a) of Construction Permit 07110047.
- ii. Emissions of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), volatile organic material (VOM), particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), and hazardous air pollutants (HAPs) from the fermentation tanks and beer well, controlled by scrubber and RTO in Mode 1 and scrubber in Mode 2, shall not exceed the following limits.

Pollutant	Emission				Total Ton/Yr
	Mode 1		Mode 2		
	Lb/Hr	Ton/Yr	Lb/Hr	Ton/Yr	
NO <sub>x</sub>	0.80	3.50	---	---	3.50
CO	0.67	2.94	---	---	2.94
VOM	2.88	12.40	9.25	1.55	13.95
PM/PM <sub>10</sub>	0.10	0.44	0.10	0.02	0.46
SO <sub>2</sub>	0.10	0.44	---	---	0.44
Acetaldehyde	0.06	0.32	0.72	0.12	0.44
Individual HAPs, Other Than Acetaldehyde	0.01	0.04	0.05	0.01	0.05

Total HAPs, Other Than Acetaldehyde	0.01	0.05	0.08	0.01	0.06
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Note: These limits replace the VOM emission limitations in Condition 1.4(a)(ii) in Permit 13080015 and limits for pollutant other than VOM in Condition 1.6(b)(i) in Permit 07110047.

c. Distillation

- i. The distillation operation shall continue to comply with the control requirement of Condition 2.5.6(a) in Permit 03060057.
- ii. Emissions from the distillation operation/scrubber shall not exceed the following limits.

Pollutant	Emission	
	Lb/Hr	Ton/Yr
VOM	2.63	11.50
PM/PM <sub>10</sub>	0.12	0.53
Acetaldehyde	1.0	4.37
Individual HAPs, Other Than Acetaldehyde	0.07	0.29
Total HAPs, Other Than Acetaldehyde	0.10	0.43

Note: These limits replace the emission limitations in Condition 2.5.6(b) and (c) in Permit 03060057.

d. Feed dryer/feed cooler/afterburner

- i. The feed dryer/feed cooler/afterburner shall continue to comply with the control requirement of Condition 2.6.6(a) in Permit 03060057.
- ii. Emissions from the feed dryer/feed cooler/afterburner shall not exceed the following limits.

Pollutant	Emission	
	Lb/Hr	Ton/Yr
NOx	6.50	28.47
CO	6.00	26.28
VOM	4.46	19.55
PM/PM <sub>10</sub>	5.00	21.90
SO <sub>2</sub>	7.50	32.85
Acetaldehyde	0.53	2.31
Individual HAPs, Other Than Acetaldehyde	1.45	3.18
Total HAPs, Other Than Acetaldehyde	2.20	3.73

Note: These limits replace the HAPs emission limitations in Condition 1.4(b) in Permit 13080015 and limits for pollutant other than HAPs in Condition 3.2 in Permit 07110047.

e. Storage tanks

Emissions of VOM from the two denatured ethanol tanks, 190-proof tank, 200-proof tank, and denaturant tank, combined shall not exceed 2.75 tons per year. Emissions from these tanks shall be determined based on operating information for the tank and established USEPA emission estimation methodology, e.g., the USEPA's TANKS program.

Note: These limits replace the emission limitations in Condition 2.7.6(a) in Permit 03060057 and Condition 4 in Permit 12040021.

f. Ethanol Loadout

i. The ethanol loadout operation shall continue to comply with the control requirement of Condition 3.4(a)(i) in Permit 03060057.

ii. Emissions ethanol loadout and flaring shall not exceed the following limits:

Pollutant	Emission	
	(Tons/Month)	(Tons/Year)
NO <sub>x</sub>	0.25	2.52
CO	0.10	1.02
VOM	0.80	7.86

These limits are based on the information in the application for the flare, including maximum ethanol throughput of 60,000,000 gallons per year and emission factors for NO<sub>x</sub>, CO, and VOM of 0.084, 0.034, and 0.16 pound per 1,000 gallons of ethanol loaded out, respectively.

Note: These limits replace the limits for ethanol loadout operations in Condition 3.4(a)(iii) in Permit 07110047.

7. Within one year of first operating the plant at a monthly production rate of 6.0 million gallons of denatured ethanol or by December 31, 2015, whichever occurs first, the Permittee shall perform the following tests. These tests shall be conducted in accordance with Condition 3.2 of Permit 03060057.

Emission Unit/Process	VOM	
	Emissions	Efficiency
Fermentation Units (Mode 1-Scrubber/RTO)	X	X
Feed dryer/Feed Cooler (Afterburner)	X	X

8. The Permittee may operate the affected plant pursuant to this construction permit, provided that the testing required by Condition 7 is completed in a timely manner and a supplement to the pending application for renewal of the federally enforceable state operating permit (FESOP) is submitted to address this permit within 6 months of beginning increased production. This condition supersedes Standard Condition 6.

If you have any questions on this permit, please contact Minesh Patel at 217/785-1705.

*Raymond E. Pilapil*

Raymond E. Pilapil  
Acting Manager, Permit Section  
Division of Air Pollution Control

Date Signed: October 1, 2014

REP:MVP:jws

cc: Region 2