



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 12 2013

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Neal Jakel
General Manager
Illinois River Energy, LLC
1900 Steward Road
Rochelle, Illinois 61068

Re: Illinois River Energy, LLC Notice of Violation and Finding of Violation

Dear Mr. Jakel:

This is to advise you that the U.S. Environmental Protection Agency has determined that the Illinois River Energy, LLC (IRE or facility) at 1900 Steward Road in Rochelle, Illinois is in violation of the Clean Air Act (CAA), 42 U.S.C. § 7401 *et seq.* and the associated state or local pollution control requirements. We are today issuing to you a Notice of Violation and Finding of Violation (NOV/FOV) for these violations.

The CAA requires the development of Primary and Secondary National Ambient Air Quality Standards to protect public health and welfare. To attain and maintain these standards, each state is required to develop an implementation plan. The Illinois State Implementation Plan (Illinois SIP) requires you to take reasonably available measures to prevent volatile organic compounds, nitrogen oxides, carbon monoxide, particulate matter, and hazardous air pollutants, including acetaldehyde, from emitting from the facility.

The CAA also requires the development of standards for the emissions of new sources, called New Source Performance Standards (NSPS). The purpose of the NSPS is to ensure that widely available pollution control technology is implemented as qualifying sources are constructed or modified.

EPA finds that at the facility there are violations of the following:

1. Illinois SIP requirements and the construction permits at the facility. In violating the Illinois SIP requirements, you are also violating Title I of the CAA and its implementing regulations, which require compliance with the terms and conditions of the Illinois SIP.
2. Section 111 of the CAA, 42 U.S.C. § 7411, NSPS Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.

We are offering you the opportunity to request a conference with us about the violations alleged in the NOV/FOV. If you would like a conference, you should request it within 10 days following receipt of this Notice, and the conference should be held within 30 days following receipt of this Notice. This conference will provide you a chance to present information on the identified violations, any efforts you have taken to comply and the steps you will take to prevent future violations. Please plan for your facility's technical and management personnel to take part in these discussions. You may have an attorney represent you at this conference.

The EPA contact in this matter is Alexandra Letuchy. You may contact Ms. Letuchy at (312) 886-6035 or letuchy.alexandra@epa.gov, if you wish to request a conference. EPA hopes that this NOV/FOV will encourage IRE's compliance with the requirements of the CAA.

Sincerely,



George T. Czerniak
Director

Air and Radiation Division

Enclosure

cc: Ray Pilapil
Manager
Bureau of Air, Compliance and Enforcement Section
Illinois Environmental Protection Agency

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

IN THE MATTER OF:

**Illinois River Energy, LLC
Rochelle, Illinois**

Proceedings Pursuant to
the Clean Air Act
42 U.S.C. § 7401 *et seq.*

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**NOTICE OF VIOLATION AND
FINDING OF VIOLATION**

EPA-5-13-IL-29

NOTICE OF VIOLATION AND FINDING OF VIOLATION

Illinois River Energy, LLC (you or IRE) owns and operates an ethanol manufacturing facility at 1900 Steward Road, Rochelle, Illinois (the facility). At the facility, IRE produces denatured ethanol from locally sourced corn.

The U.S. Environmental Protection Agency is sending this Notice of Violation and Finding of Violation (NOV/FOV or Notice) to notify you that we have found violations of the Clean Air Act (CAA) at the facility. More particularly, we have found violations of conditions specified in the Illinois State Implementation Plan (Illinois SIP), the New Source Performance Standards (NSPS), and the implementing regulations at 40 C.F.R. Part 60 Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (NSPS Subpart Db).

Section 113 of the CAA provides you with the opportunity to request a conference with us to discuss the violations alleged in the NOV/FOV. This conference will provide you a chance to present information on the identified violations, any efforts you have taken to comply, and the steps you will take to prevent future violations. Please plan for the facility's technical and management personnel to take part in these discussions. You may have an attorney represent and accompany you at this conference.

Relevant Statutory and Regulatory Background

Section 110(a)(1) of the CAA, 42 U.S.C. § 7410(a)(1), requires each state to adopt and submit to the EPA for approval a SIP that provides for the implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS). Under Section 110(a) of the CAA, 42 U.S.C. § 7410(a), each SIP must include a permit program to regulate the modification and construction of any stationary source of air pollution as necessary to assure that NAAQS are achieved. Pursuant to Section 113(a) and (b) of the CAA, 42 U.S.C. § 7413(a) and (b), upon EPA approval, SIP requirements are federally enforceable under Section 113. Under 40 C.F.R.

§ 52.23, any permit limitation or condition contained within a permit issued under an EPA-approved program that is incorporated in a SIP is a requirement of the SIP and is federally enforceable under Section 113 of the CAA, 42 U.S.C. § 7413.

EPA promulgated approval of 35 Illinois Administrative Code (IAC) Part 201, "Permits and General Conditions," as part of the federally enforceable SIP for the State of Illinois on May 31, 1972. See 37 Fed. Reg. 10862. Since then, EPA has approved several revisions of 35 IAC Part 201 into the federally enforceable SIP.

1. Illinois SIP and permit conditions relevant to this NOV/FOV are as follows:
 - a. The Illinois EPA (IEPA) issued a Construction Permit, Application No. 06060083, to the facility dated April 18, 2007 (2007 Construction Permit).
 - b. The IEPA issued a Construction Permit to the facility dated March 19, 2012 (2012 Construction Permit).
 - c. Permit Condition 1.1.b.i of the 2007 Construction Permit states that the amount of grain processed by the plant, including the grain processed by the expansion, shall not exceed 100,300 tons/month and 1,202,600 tons/year.
 - d. Permit Condition 1.1.b.iv of the 2007 Construction Permit states that the natural gas usage by the plant shall not exceed 313 million cubic feet per month and 3,750 million cubic feet per year.
 - e. Permit Conditions 1.4 of the 2007 Construction Permit and the 2012 Construction Permit states that the permittee shall operate and maintain the emission units at the plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practice.
 - f. Permit Conditions 2.3.5.a.i.B of the 2007 Construction Permit and the 2012 Construction Permit states the that maximum scrubber water outlet temperature, based on an hourly average, shall be maintained at levels that are consistent with levels at which emission testing demonstrated compliance with applicable requirements.
 - g. Permit Conditions 2.3.5.a.i.C of the 2007 Construction Permit and the 2012 Construction Permit states that the maximum scrubber exhaust gas outlet temperature, based on an hourly average, shall be maintained at levels that are consistent with levels at which emission testing demonstrated compliance with applicable requirements.
 - h. Permit Conditions 2.3.8.a of the 2007 Construction Permit and the 2012 Construction Permit states the facility shall equip the new fermentation scrubber with continuous monitoring devices for the scrubber water flow rate, scrubbant discharge temperature at the bottom of the scrubber, scrubber exhaust gas discharge temperature, rate of reagent addition to the scrubbant, and differential pressure across the packed bed and demister section of the scrubber.

- i. Permit Conditions 2.5.3.b.i. of the 2007 Construction Permit and the 2012 Construction Permit state that the emission of nitrogen oxides (NO_x) from the oxidizer/boiler system, including period of startup, malfunction, and breakdown shall not exceed 0.1 lb/mmBtu, pursuant to the provisions of 40 C.F.R. § 60.44b(a)(1)(i), for low heat release steam generating units and with compliance determined in accordance with applicable compliance procedures of the NSPS.
 - j. Permit Condition 2.5.6-1.a.i of the 2007 Construction Permit states that volatile organic matter (VOM) emissions from units controlled by the thermal oxidizer/boiler systems shall be controlled by at least 98 weight percent or to a concentration of no more than 10 ppmv, whichever is less stringent.
 - k. Permit Condition 2.5.6-1.a.iii of the 2007 Construction Permit states that compliance with the control efficiency requirements of Permit Conditions 2.5.6-1.a.i and 2.5.6-1.a.ii shall be determined from the “uncontrolled” emissions entering the oxidizer/boiler system and the emissions from the system, without consideration of any uncontrolled emissions introduced to the system with combustion air.
 - l. Permit Conditions 2.5.6-1.b.i of the 2007 Construction Permit and 2.5.6-1.b of the 2012 Construction Permit provide the VOM and CO(carbon monoxide) emission limits for emission units controlled by the thermal oxidizer/boiler systems.
 - m. Permit Conditions 2.5.11.a of the 2007 Construction Permit and the 2012 Construction Permit state that for VOM and CO emissions from the thermal oxidizer/boiler system, periods of excess emissions shall include any 1-hour periods when the feed dryers are operating in which the average combustion temperature is more than 50°F below the temperature during testing that demonstrated compliance with applicable requirements.
 - n. Permit Condition 3.1-1 Emission Testing of the 2007 Construction Permit states that within 180 days of initial startup of new feed dryers, the Permittee shall have the Thermal Oxidizer/Boiler 2 tested for VOM efficiency.
2. The NSPS Subpart Db provisions relevant to this NOV/FOV are as follows:
- a. Since July 2009, the facility has been subject to the requirements of Section 111 of the CAA, 42 U.S.C. § 7411, and the implementing regulations at 40 C.F.R. Part 60, Subpart Db.
 - b. 40 C.F.R. § 60.44b(a)(1)(i) states that no owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_x in excess of 0.10 lb/mmBtu.

Factual Allegations

3. The factual allegations are as follows:
 - a. IRE owns and operates an ethanol plant located at 1900 Steward Road, Rochelle, Illinois.
 - b. On March 23, 2012, EPA performed a Clean Air Act inspection of the facility (CAA Inspection).
 - c. On July 18, 2012, EPA sent a CAA Section 114 Information Request to IRE. On December 14, 2012, IRE provided documentation in response to the CAA Section 114 Information Request.
 - d. Additional information requested by EPA was provided by IRE in a letter, dated February 15, 2013 (Supplemental Letter).

Explanation of Violations

4. The Permit violations are as follows:
 - a. During the months of July 2011, October 2011, and December 2011, the facility processed in excess of 100,300 tons/month of grain. This constitutes a violation of 2007 Construction Permit Condition 1.1.b.i. and the CAA.
 - b. During the month of October 2011, the facility used more than 313 million cubic feet of natural gas. This constitutes a violation of 2007 Permit Condition 1.1.b.iv. and the CAA.
 - c. During the CAA Inspection, EPA inspectors observed pressure relief valves at fermentation tanks No. 3, 4, and 7 actively venting to the atmosphere. Active venting from pressure relief valves is not a good air pollution control practice. Emissions from the fermentation tanks consist of VOM and HAPs, including acetaldehyde. This constitutes a violation of 2012 Construction Permit Condition 1.4. and the CAA.
 - d. IRE completed a performance test in April and May of 2009 for purposes of regulatory compliance. This performance test failed to demonstrate compliance with VOM control efficiency requirements at the thermal oxidizer #2 using the compliance method required in Permit Condition 2.5.6-1.a.iii of the 2007 Construction Permit. This constitutes a violation of 2007 Construction Permit Conditions 2.5.6-1.a.i and the CAA.
 - e. IRE failed to comply with the emission limits for VOM and CO at the two thermal oxidizer/boiler systems (TO/B #1 and TO/B #2), pursuant to the requirements of Condition 2.5.11.a of the 2007 Construction Permit and the 2012 Construction Permit. This constitutes a violation of 2007 Permit Condition 2.5.6-1.b.i and 2012 Permit Condition 2.5.6-1.b. and the CAA. The number of 1-hour

excess emission periods in a year expressed as a percentage of the total number of 1-hour periods in a year when the feed dryer was not OFF at TO/B #1 and TO/B #2 are shown below:

	TO/B #1 (%)	TO/B #2 (%)
2009	24.84	32.34
2010	14.61	23.54
2011	32.27	59.28
2012	2.43	3.46

- f. IRE exceeded the maximum scrubber water outlet temperature at Fermentation Scrubber #1 and #2. The maximum scrubber water outlet temperatures were established during performance testing at the facility. This constitutes a violation of Condition 2.3.5.a.i.B of the 2007 Construction Permit and 2012 Construction Permit and the CAA. The number of day and night outlet temperature readings in a year that exceeded the levels demonstrating compliance during emission tests expressed as a percentage of the total number of temperature readings taken in a year at Scrubber #1 and #2 are shown below:

	Scrubber #1 (%)	Scrubber #2 (%)
2009	18.80	22.81
2010	19.35	29.19
2011	15.63	26.08
2012	17.96	23.25

- g. IRE exceeded the maximum scrubber exhaust gas outlet temperature at Fermentation Scrubber #1 and #2. The maximum scrubber exhaust gas outlet temperatures were established during performance testing at the facility. This constitutes a violation of Condition 2.3.5.a.i.c of the 2007 Construction Permit and 2012 Construction Permit and the CAA. The number of hourly exhaust gas outlet temperature readings that exceeded the levels demonstrating compliance during emission tests expressed as a percentage of the total number of temperature readings taken from July 1, 2009 to July 1, 2012 at Scrubber #1 and #2 are shown below:

	Scrubber #1 (%)	Scrubber #2 (%)
July 1, 2009 – July 1, 2012	18.48	30.03

- h. IRE failed to install a continuous monitoring system at the new fermentation scrubber until December 10, 2012. This constitutes a violation of Permit Condition 2.3.8.a of the 2007 Construction Permit and 2012 Construction Permit and the CAA.
5. Violations of the NSPS Subpart Db and Condition 2.5.3.b.i. of the 2007 Construction Permit and 2012 Construction Permit are as follows:
- a. IRE failed to limit NO_x emissions from the combined stack for the thermal oxidizers to less than 0.10 lb/mmBtu, as required by 40 C.F.R. § 60.44b(a)(1)(i), based on a 30-day rolling average on a daily basis. The number of annual violations at TO/B #1 and TO/B #2 are shown below.

	TO/B #1	TO/B #2
2009	0	5
2010	27	6
2011	4	33
2012	15	16

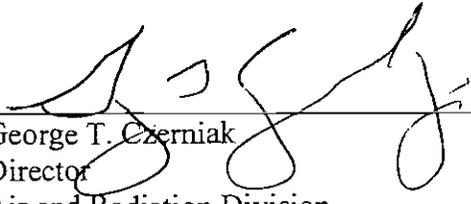
Environmental Impact of Violations

6. All violations cited above demonstrate elevated emissions of VOM, NO_x, CO, and hazardous air pollutants, particularly acetaldehyde.
- a. VOM and NO_x contribute to ground level ozone, which can irritate the human respiratory system and reduce lung function.
- b. Current scientific evidence links short-term NO_x exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. In addition, studies show a connection between breathing elevated short-term NO_x concentrations, and increased hospital admissions for respiratory issues, especially asthma.

- c. CO can cause harmful health effects by reducing oxygen delivery to the body's tissues, including the heart and brain. At extremely high levels, CO can cause death.
- d. Acute exposure to acetaldehyde results in irritation of the eyes, skin, and respiratory tract, as well as erythema, coughing, and pulmonary edema. Chronic exposure to high levels of acetaldehyde has been linked to effects similar to alcoholism, slight anemia, as well as nasal, tracheal and kidney pathology. EPA lists acetaldehyde as a probable human carcinogen.

Date

3/12/13


George T. Czerniak
Director
Air and Radiation Division

CERTIFICATE OF MAILING

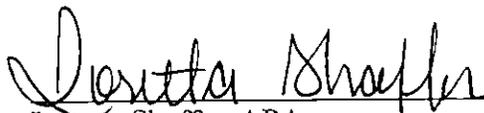
I, Loretta Shaffer, certify that I sent a Notice of Violation and Finding of Violation, No. EPA-5-13-IL-29, by Certified Mail, Return Receipt Requested, to:

Neal Jakel
General Manager
Illinois River Energy, LLC
1900 Steward Road
Rochelle, Illinois 61068

I also certify that I sent copies of the Notice of Violation and Finding of Violation by first-class mail to:

Ray Pilapil
Manager
Bureau of Air, Compliance and
Enforcement Section
Illinois Environmental Protection Agency

On the 13 day of March 2013.



Loretta Shaffer, APA
Planning and Administrative Section

CERTIFIED MAIL RECEIPT NUMBER: 70091680 0000 76741248