



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

MAR 16 2014

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Jim Leiting
Chief Operating Officer
Big River Resources Galva, LLC
1100 SE 2nd Street
Galva, Illinois 61434

Dear Mr. Leiting:

This is to advise you that the U.S. Environmental Protection Agency has determined that the Big River Resources Galva, LLC's (Big River)-facility at 1100 SE 2nd Street, Galva, Illinois is in violation of the Clean Air Act (CAA) and associated state pollution control requirements. We are issuing you a Notice of Violation and Finding of Violation (NOV/FOV) for these violations.

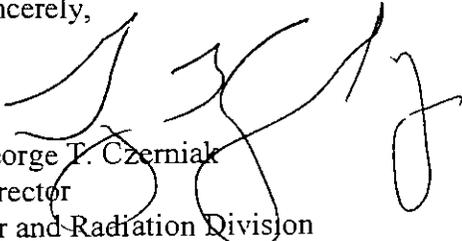
Specifically, at its thermal oxidizers, Big River has violated particulate matter and acetaldehyde emission limits established in accordance with the CAA, the Illinois State Implementation Plan, and Big River's June 8, 2007 Construction Permit (modified June 22, 2011). Big River also exceeded its nitrogen oxide emission limits under the New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units (ICI SGU), codified at 40 C.F.R. Part 60 Subpart Db.

Section 113 of the CAA gives us several enforcement options to resolve these violations, including: issuing an administrative compliance order, issuing an administrative penalty order, bringing a judicial civil action and bringing a judicial criminal action.

We are offering you the opportunity to request a conference with us about the violations alleged in the NOV/FOV. A conference should be requested within 10 days following receipt of this notice. A 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 and accompany you at this conference.

The EPA contact in this matter is Molly Smith. You may call her at (312) 353-8773 if you wish to request a conference. EPA hopes that this NOV/FOV will encourage Big Rivers' compliance with the requirements of the CAA.

Sincerely,



George T. Czerniak
Director
Air and Radiation Division

cc: Eric Jones, Manager
Compliance Unit
Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794

Enclosure

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

IN THE MATTER OF:)	
)	
Big River Resources Galva, LLC)	NOTICE OF VIOLATION and
Galva, Illinois)	FINDING OF VIOLATION
)	
)	EPA-5-14-IL-03
Proceedings Pursuant to)	
the Clean Air Act)	
42 U.S.C. §§ 7401 <i>et seq.</i>)	

NOTICE AND FINDING OF VIOLATION

The U.S. Environmental Protection Agency is sending this Notice of Violation and Finding of Violation (NOV/FOV) to notify you that we have found violations of the Clean Air Act (CAA) at your Galva, Illinois facility. We have found emissions of nitrogen oxide, particulate matter, and acetaldehyde from the thermal oxidizers and fermentation scrubber at your facility in excess of the limits specified in your construction permit. We have also identified violations of the New Source Performance Standards (NSPS), 42 U.S.C. § 7411, and the implementing regulation at 40 C.F.R. Part 60, Subpart Db, NSPS for Industrial-Commercial-Institutional Steam Generating Units (ICI SGU).

STATUTORY AND REGULATORY BACKGROUND

Standards of Performance for New Stationary Sources

1. Section 111(b) of the CAA, 42 U.S.C. § 7411(b), requires EPA to publish a list of categories of sources, which, in EPA's judgment, cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare, and to promulgate standards of performance for new stationary sources within these categories. These standards are known as "new source performance standards" or "NSPS."
2. Section 111(e) of the CAA, 42 U.S.C. § 7411(e), prohibits the owner or operator of any new source from operating such source in violation of any standard of performance applicable to such source.
3. Under Section 111(a)(2) of the CAA, 42 U.S.C. § 7411(a)(2), "new source" means any stationary source, the construction or modification of which is commenced after the publication of regulations (or if earlier, proposed regulations) prescribing a standard of performance which will be applicable to such source.
4. Under Section 111(a)(3) of the CAA, 42 U.S.C. § 7411(a)(3), "stationary source" means any building, structure, facility, or installation which emits or may emit any air pollutant.

5. Under Section 111(b) of the CAA, 42 U.S.C. § 7411(b), EPA promulgates NSPS for categories of sources and codifies those requirements at 40 C.F.R. Part 60.
6. The general provisions applicable to the owner or operator of any stationary source which contains an affected facility subject to NSPS are codified at 40 C.F.R. Part 60, Subpart A. These general provisions include definitions at 40 C.F.R. § 60.2 and monitoring requirements at 40 C.F.R. § 60.13.
7. Under 40 C.F.R. § 60.2, an “affected facility” means any apparatus subject to a performance standard under the NSPS regulations.
8. The NSPS, at 40 C.F.R. § 60.13(e), provides that all continuous monitoring systems shall be in continuous operation and shall meet certain minimum frequency of operation requirements, except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 C.F.R. § 60.13(d).
9. On June 13, 2007, 72 Fed. Reg. 32742, EPA promulgated the NSPS ICI SGU, codified at 40 C.F.R. Part 60 Subpart Db.
10. Under 40 C.F.R. § 61.40b(a), the affected facility to which the NSPS for ICI SGU applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) 100 million British thermal units per hour (MMBtu/hr).
11. The NSPS for ICI SGU, at 40 C.F.R. § 60.44b(a), states that “[e]xcept as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, 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 (expressed as NO₂) in excess of the following limits.”
12. The NSPS for ICI SGU, at 40 C.F.R. § 60.44b(a)(1)(i) defines the pound per 100 million British thermal units per hour (lb/MMBtu) limit for nitrogen oxides (expressed as NO₂) for natural gas to be 0.10 lb/MMBtu.

Illinois State Implementation Plan (SIP)

13. 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 State Implementation Plan (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.

14. 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, 42 U.S.C. § 7413.
15. EPA promulgated approval of Illinois Administrative Code Part 201, "Permits and General Conditions," as part of the federally enforceable SIP for the State of Illinois on May 31, 1972, 37 Fed. Reg. 10862. Since then, EPA has approved several revisions of 35 IAC Part 201 into the federally-enforceable SIP.
16. Construction Permit Number 06070047 for Big River's Galva, Illinois, facility was issued on June 8, 2007, (original permit) by the Illinois Environmental Protection Agency (IEPA).
17. Construction Permit Number 06070047 was revised and reissued to Big River on June 22, 2011, (current permit) by IEPA.
18. Condition Number 2.5.5-1(c)(ii) of the current permit states that "during periods when feed is present in the dryer and the dryer is vented to the oxidizer/boiler system(s) or emissions from other units are vented to the oxidizer/boiler system(s), the minimum combustion chamber temperature of the system(s) shall be maintained at a temperature that is consistent with the manufacturer's recommended temperature or, after emission testing is performed, the temperature at which the most recent emission testing demonstrated compliance with applicable requirements, other than requirements for emissions of NO_x (and emissions of CO, if continuous monitoring is performed for CO). Notwithstanding the above, during shutdown of dryers and other units served by the oxidizer/boiler system(s), the combustion chamber temperature of the oxidizer/boiler system(s) need not comply with the above requirement and may instead be maintained in accordance with good air pollution control practice as addressed for shutdown of the oxidizer/boiler systems and associated units."
19. Condition Number 2.5.3(b) of the current permit provides that each affected oxidizer/boiler system is subject to the NSPS for ICI SGU, 40 C.F.R. Part 60, Subpart Db, and related provisions in 40 C.F.R. Part 60, Subpart A General Provisions.
20. Condition Number 2.5.3(b)(i) of the current permit provides that the emissions of NO_x from each oxidizer/boiler system, including periods of start-up, malfunction, and breakdown shall not exceed 0.1 lbs/MMBtu, pursuant to the provisions in 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.
21. Condition Number 2.3.6(b)(ii) of the original permit required particulate matter (PM) emissions from the fermentation scrubber to be limited to 0.06 pounds per hour (lbs/hr).
22. Condition Number 2.3.6(b)(ii) of the current permit requires PM emissions from the fermentation scrubber to be limited to 0.82 lbs/hr.

23. Condition Number 2.5.6(b)(i) of the original permit required emissions from the oxidizer/boiler system to not exceed the following limits:
 - A. 0.19 lb/hr of acetaldehyde from each oxidizer/boiler;
 - B. 1.50 tons per year (tpy) acetaldehyde from both oxidizers/boilers combined;
 - C. 1.78 lbs/hr of PM from each oxidizer/boiler;
 - D. 7.80 tpy PM from each oxidizer/boiler; and
 - E. 15.60 tpy PM from both oxidizers/boilers combined.

24. Condition Number 2.5.6(b)(i) of the current permit requires emissions from the oxidizer/boiler system to not exceed the following limits:
 - A. 0.23 lbs/hr of acetaldehyde from each oxidizer/boiler;
 - B. 2.02 tpy of acetaldehyde from both oxidizers/boilers combined;
 - C. 4.19 lbs/hr PM from each oxidizer/boiler;
 - D. 18.35 tpy PM from each oxidizer/boiler; and
 - E. 36.69 tpy PM from both oxidizers/boilers combined.

Finding of Facts

25. Big River owns and operates an ethanol production facility located at 1100 SE 2nd Street, Galva, Illinois (facility).
26. On July 1, 2011, EPA conducted an inspection at the facility.
27. On July 1, 2011, EPA inspectors were informed that the Big River facility operated twenty-four hours a day, seven days a week.
28. The facility has two thermal oxidizers (TO), referred to as TO #1 and TO #2. Both of the TOs vent to a combined stack. The facility has one fermentation scrubber.
29. On October 18, 2013, EPA issued a Section 114 Information Request to Big River.
30. One December 5, 2013, Big River submitted a response to the October 11, 2013, Section 114 Information Request (Section 114 Response).
31. Initial performance testing was conducted at the facility's thermal oxidizers and fermentation scrubber from September 28 through October 3, 2009, and subsequent performance testing was conducted between May 8 and 9, 2012.
32. Results from the September 28-October 3, 2009 performance testing are listed below:
 - A. Fermentation Scrubber
 - i. 0.528 lbs/hr PM
 - B. Thermal Oxidizer (TO) #1
 - i. 2.605 lbs/hr PM
 - C. TO #2

- i. 2.643 lbs/hr PM
- ii. 0.23 lbs/hr acetaldehyde
- D. TO #1 and #2 (combined)
 - i. 5.794 lbs/hr PM
 - ii. 0.4142 lbs/hr acetaldehyde

33. On December 14, 2010, the IEPA received an application from Big River to modify emission limits included in the original permit. The permit application was approved and issued June 22, 2011. The second permit is now referred to as the current permit.

34. Results from the May 8-9, 2012 performance testing are listed below:

- A. Fermentation Scrubber
 - i. 0.245 lbs/hr PM
 - ii. 0.4003 lbs/hr acetaldehyde
- B. TO#1 and #2 (combined)
 - i. 23.241 tpy PM
 - ii. 1.8993 tpy acetaldehyde

35. Table 1 below summarizes hourly TO temperatures provided by Big River in its Section 114 Response for the time period January 1, 2010, to October 30, 2013, when the hourly operating temperature did not exceed 1450 degrees Fahrenheit.

Table 1: Number of Hours Each TO Operated Below the 1450 Degree Fahrenheit Limit

Year	Number of Hours TO #1 Operated with Chamber Temperature Less than 1450 Degrees Fahrenheit	Number of Hours TO #2 Operated with Chamber Temperature Less than 1450 Degrees Fahrenheit
2010	467	361
2011	158	172
2012	311	272
2013*	392	381
TOTAL	1,328	1,186

* 2013 data is only available from January 1, 2013, to October 30, 2013.

36. During periods of shutdown, Condition 2.5.5-1(c)(ii) allows Big River to operate the TOs consistent with written shutdown procedures, and not the 1450 degree Fahrenheit temperature requirement. Table 2 summarizes hourly TO temperatures provided by Big River in its Section 114 Response for the time period January 1, 2010, to October 30, 2013, when the hourly operating temperature did not exceed 1450 degrees Fahrenheit, excluding periods of shutdown, power outages, and continuous emission monitor (CEM) maintenance and calibration.

Table 2: Number of Hours Each TO Operated Below the 1450 Degree Fahrenheit Limit, Excluding Periods of Shutdown, Power Outages, and CEMs Maintenance and Calibration.

Year	Number of Hours TO #1 Operated with Chamber Temperature Less than 1450 Degrees Fahrenheit	Number of Hours TO #2 Operated with Chamber Temperature Less than 1450 Degrees Fahrenheit
2010	253	153
2011	52	20
2012	94	47
2013*	229	189
TOTAL	628	409

* 2013 data is only available from January 1, 2013, to October 30, 2013.

37. In its Section 114 Response, Big River provided hourly NO_x emission rates from both of the facility's TOs from January 1, 2010, to October 30, 2013. A summary of hourly NO_x emission rates that exceeded 0.1 lbs/MMBtu are listed in the Table 3 below.

Table 3: Hourly NO_x Emission Rates that Exceeded 0.1 lbs/MMBtu from January 1, 2010, to October 30, 2013 at each TO

Year	Number of Hours TO #1 Emitted NO_x Emissions Greater than 0.1 lbs/MMBtu NO_x	Number of Hours TO #2 Emitted NO_x Emissions Greater than 0.1 lbs/MMBtu NO_x
2010	66	63
2011	31	33
2012	47	51
2013*	62	47

* 2013 data is only available from January 1, 2013, to October 30, 2013.

Explanation of Violations

38. From September 28, 2009, to May 9, 2012, Big River was in violation of the following limits listed in Condition Number 2.3.6(b)(ii) and Condition Number 2.5.6(b)(i) of the original permit.
- A. Fermentation Scrubber
 - i. 0.528 lbs/hr PM
 - B. TO #1
 - i. 2.605 lbs/hr PM
 - C. TO #2
 - i. 2.643 lbs/hr PM
 - ii. 0.23 lbs/hr acetaldehyde
 - D. TO #1 and #2 (combined)
 - i. 5.794 lbs/hr PM
 - ii. 0.4142 lbs/hr acetaldehyde

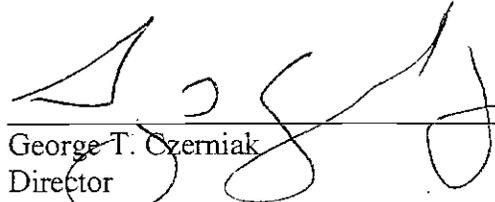
- 39. From January 1, 2010, to October 30, 2013, Big River was in violation of Condition Number 2.5.5-1(c)(ii) of the current permit for the operating times listed in Table 2 above.
- 40. From January 1, 2010, to October 30, 2013, Big River was in violation of Condition Number 2.5.3(b)(i) of the current permit and the provisions in 40 C.F.R. § 60.44b(a)(1)(i), for low heat release steam generating units for the operating times listed in Table 3 above.

Environmental Impact of Violations

- 41. Violations of the particulate matter increase public exposure to unhealthy particulate matter. Particulate matter contributes to respiratory problems, lung damage and premature deaths.
- 42. Violation of NO_x standards increases the amount of acid rain and ground level ozone, which could cause respiratory inflammation.
- 43. Violation of acetaldehyde standards increases the amount of acetaldehyde in the atmosphere. Acetaldehyde is considered a probable human carcinogen. Acute exposure to acetaldehyde results in effects including irritation of the eyes, skin, and respiratory tract.

3/6/14

Date



George T. Czerniak
Director
Air and Radiation Division

CERTIFICATE OF MAILING

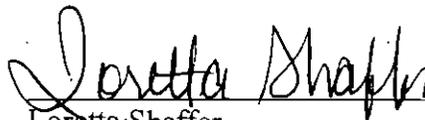
I, Loretta Shaffer, certify that I sent a Notice and Finding of Violation, No. EPA-5-14-IL-03, by Certified Mail, Return Receipt Requested, to:

Jim Leiting
Chief Operating Officer
Big River Resources Galva, LLC
1100 SE 2nd Street
Galva, Illinois 61434

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

Eric Jones, Manager
Compliance Unit
Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794

On the 10 day of March 2014.



Loretta Shaffer
Program Technician
AECAB, PAS

CERTIFIED MAIL RECEIPT NUMBER: 7009 1680 0000 7670 0504