



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

SEP 30 2013

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Neal Sahni, HSE Manager
Toledo Refining Company
1819 Woodville Road
Oregon, Ohio 43616

Dear Mr. Sahni:

The U.S. Environmental Protection Agency has determined that Toledo Refining Company's (TRC) facility at 1819 Woodville Road, Oregon, Ohio is in violation of the Clean Air Act (the Act) and associated state or local pollution control requirements. A list of the requirements violated is provided below. We are today issuing to you a Notice of Violation and Finding of Violation (NOV/FOV) for these violations.

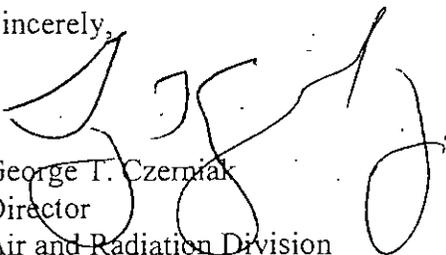
EPA finds that TRC has violated the General Provisions of the New Source Performance Standards; the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006; the Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006; the General Provisions of the National Emission Standards for Hazardous Air Pollutants from Source Categories; the National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks; the National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries; the Ohio State Implementation Plan; and your Title V Permit.

Section 113 of the Act gives us several enforcement options. These options include issuing an administrative compliance order, issuing an administrative penalty order, and bringing a judicial civil or criminal action.

We are offering you the opportunity to confer with us about the violations alleged in the NOV/FOV. The conference will give you an opportunity to present information on the specific findings of violation, 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 attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

The EPA contacts in this matter are William Wagner and Mary McAuliffe, Associate Regional Counsels. You may call them at (312) 886-4684 and (312) 886-6237, respectively, if you wish to request a conference. You should make the request for a conference within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter. EPA hopes that this NOV/FOV will encourage TRC's compliance with the requirements of the Act.

Sincerely,



George T. Czerniak
Director
Air and Radiation Division

cc: Bob Hodanbosi, Ohio Environmental Protection Agency

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:)	
)	
Toledo Refining Company)	NOTICE OF VIOLATION and
Oregon, Ohio)	FINDING OF VIOLATION
)	
)	EPA-5-13-OH-11
Proceedings Pursuant to)	
the Clean Air Act)	
42 U.S.C. § 7401 <i>et seq.</i>)	

NOTICE AND FINDING OF VIOLATION

Toledo Refining Company (you or TRC) owns and operates a petroleum refinery at 1819 Woodville Road, Oregon, Ohio (Toledo Refinery). Air emission control equipment includes two steam-assisted flares, known as the Plant 4 Flare and the Plant 9 Flare.

The U.S. Environmental Protection Agency is sending this Notice of Violation and Finding of Violation (NOV/FOV or Notice) because you have failed to operate your flares in accordance with good air pollution control practices for minimizing emissions and in accordance with their designs, in violation of the General Provisions of the New Source Performance Standards; the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006; the Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006; the General Provisions of the National Emission Standards for Hazardous Air Pollutants from Source Categories; the National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks; the National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries; the Ohio State Implementation Plan; and your Title V Permit. The underlying statutory and regulatory requirements include provisions of the Clean Air Act.

Clean Air Act

1. The Clean Air Act is designed to protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population. Section 101(b)(1) of the Act, 42 U.S.C. § 7401(b)(1).

Section 111 of the Act, New Source Performance Standards

2. Section 111(b) of the Act, 42 U.S.C. § 7411(b), requires EPA to publish a list of categories of stationary sources and, within a year after the inclusion of a category of stationary

sources in the list, to publish proposed regulations establishing Federal standards of performance for new sources within the source category.

3. Section 111(f) of the Act, 42 U.S.C. § 7411(f), requires the promulgation of standards of performance for new stationary sources.

4. Section 111(e) of the Act, 42 U.S.C. § 7411(e), prohibits the operation of a new source in violation of any applicable standard of performance.

NSPS General Provisions, 40 C.F.R. Part 60, Subpart A

5. EPA proposed General Provisions to the New Source Performance Standards (NSPS Subpart A) on August 17, 1971. *See* 36 Fed. Reg. 15704. EPA promulgated NSPS Subpart A on December 23, 1971. *See* 36 Fed. Reg. 24877. The subpart has been subsequently amended. NSPS Subpart A is codified at 40 C.F.R. § 60.1 – 60.19.

6. The NSPS regulations apply to the owner or operator of any stationary source that contains an “affected facility,” the construction or modification of which is commenced after the date of publication of any proposed standard applicable to that facility. *See* 40 C.F.R. § 60.1(a).

7. 40 C.F.R. § 60.2 defines an “affected facility” under the NSPS, with reference to a stationary source, as any apparatus to which a standard is applicable.

8. 40 C.F.R. § 60.11(d) requires that “at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.”

9. 40 C.F.R. § 60.18(d) provides that “owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs...”

NSPS for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (SOCMI), 40 C.F.R. Part 60, Subpart VV

10. On October 18, 1983, EPA promulgated the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006 (NSPS Subpart VV). *See* 48 Fed. Reg. 48335. NSPS Subpart VV has been subsequently amended. The subpart is codified at 40 C.F.R. § 60.480 – 60.489.

11. 40 C.F.R. § 60.482-10(d) provides that “[f]lares used to comply with this subpart shall comply with the requirements of § 60.18.”

12. 40 C.F.R. § 60.482-10(e) provides that “[o]wners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.”

NSPS for Equipment Leaks of VOC in Petroleum Refineries. 40 C.F.R. Part 60, Subpart GGG

13. On May 30, 1984, EPA promulgated the Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006 (NSPS Subpart GGG). *See* 49 Fed. Reg. 22606. NSPS Subpart GGG has been subsequently amended. The subpart is codified at 40 C.F.R. § 60.590 – 60.593.

14. 40 C.F.R. § 60.592 provides that “[e]ach owner or operator subject to the provisions of this subpart shall comply with the requirements of §§ 60.482-1 to 60.482-10 as soon as practicable, but no later than 180 days after initial startup.”

Section 112 of the Act, NESHAP for Source Categories

15. Section 112(b) of the Act, 42 U.S.C. § 7412(b) lists 188 Hazardous Air Pollutants (HAPs) that cause adverse health or environmental effects.

16. Section 112(d)(1) of the Act, 42 U.S.C. § 7412(d), requires EPA to promulgate regulations establishing emissions standards for each category or subcategory of major and area sources of HAPs that are listed for regulation pursuant to subsection (c) of Section 112.

17. Section 112(d)(2) of the Act requires that emission standards promulgated under Section 112(d)(1) require “the maximum degree of reduction in emissions of the hazardous air pollutants . . . that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for new or existing sources in the category or subcategory to which such emission standard applies . . .” (hereinafter, “MACT”).

NESHAP for Source Categories, General Provisions, 40 C.F.R. Part 63, Subpart A

18. On March 16, 1994, EPA promulgated the General Provisions to the National Emission Standards for Hazardous Air Pollutants from Source Categories (MACT Subpart A). *See* 59 Fed. Reg. 12408. The Subpart has been subsequently amended. The subpart is codified at 40 C.F.R. § 63.1 – 63.16.

19. 40 C.F.R. § 63.6(e)(1)(i) provides that “[a]t all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.”

NESHAP from Equipment Leaks, 40 C.F.R. Part 63, Subpart H

20. EPA promulgated National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks on April 22, 1994 (the HON). *See* 59 Fed. Reg. 19568. The subpart has been subsequently amended. The HON is codified at 40 C.F.R. § 63.160 – 63.183.

21. 40 C.F.R. § 63.161 defines control device to mean “any equipment used for recovering, recapturing, or oxidizing organic hazardous air pollutant vapors. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, flares, boilers, and process heaters.”

22. 40 C.F.R. § 63.172(d) provides that “[f]lares used to comply with this subpart shall comply with the requirements of § 63.11(b) of subpart A of this part.”

23. 40 C.F.R. § 63.172(e) provides that “[o]wners or operators of control devices that are used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their design.”

NESHAP from Petroleum Refineries, 40 C.F.R. Part 63, Subpart CC

24. EPA promulgated National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (the Refinery MACT) on August 18, 1995. *See* 60 Fed. Reg. 43244. The subpart has been subsequently amended. The Refinery MACT is codified at 40 C.F.R. § 63.640 – 63.656.

25. 40 C.F.R. § 63.648(a) provides that “[e]ach owner or operator of an existing source subject to the provisions of this subpart shall comply with the provisions of [NSPS Subpart VV]...”

26. Table 6 to the Refinery MACT, titled “General Provisions Applicability to Subpart CC,” specifically provides that Section 63.6(e) of the General Provisions applies to affected sources under the Refinery MACT (except for “Group 2 emission points”).

Title V of the Act, Permits, and 40 C.F.R. Part 70, Operating Permit Program

27. Section 502(a) of the Act, 42 U.S.C. § 7661a(a), and 40 C.F.R. § 70.7(b) provide that, after the effective date of any permit program approved or promulgated under Title V of the Act, no source subject to Title V may operate except in compliance with a Title V permit.

28. 40 C.F.R. § 70.7(b) states “...no part 70 source may operate after the time that it is required to submit a timely and complete application under an approved permit program, except in compliance with a permit issued under a part 70 program.”

29. EPA fully approved the Ohio Title V Permit program, effective October 1, 1995. 60 FR 42045 (August 15, 1995). Ohio's Title V Permit program requirements are codified at Ohio Administrative Code 3745-77.

30. OAC Rule 3745-77-02 provides that "the owner or operator of a Title V source shall not operate such source after the date that a timely and complete Title V permit application is required to be submitted under this chapter, except in compliance with a permit issued under this chapter."

31. The Ohio Environmental Protection Agency (Ohio EPA) issued Title V Permit number P0104231 to the facility on July 16, 2012.

32. The Title V permit number P0104231 identifies the Plant 4 Flare as Emission Unit P009 and the Plant 9 Flare as P008.

33. Section C.11(b)(1) of Title V permit number P0104231 identifies P008 as being subject to MACT Subparts CC and H.

34. Section C.11(b)(2) of Title V permit number P0104231 states that, "[p]ursuant to 40 CFR Part 63.160(b)(2), because this flare is a control device for an emissions unit that is subject to 40 CFR Part 63, Subpart H, the flare will be required to comply only with the provisions of 40 CFR Part 63, Subpart H."

35. Section C.11(d)(3) of Title V permit number P0104231 provides that "[t]he permittee shall at all times and to the extent practicable, including during periods of Startup, Shutdown, upset and/or Malfunction of refinery process units, implement good air pollution control practices to minimize emissions from its Hydrocarbon Flaring Devices consistent with 40 CFR. 60.11(d)."

36. Section C.12(b)(1) of Title V permit number P0104231 identifies P009 as being subject to MACT Subparts CC and GGG.

37. Section C.12(b)(2)(1) provides that, "[p]ursuant to 40 CFR Part 63.640(p), the flare will be required to comply only with the provisions of 40 CFR Part 63, Subpart CC with respect to the Control Device Requirements under 40 CFR Part 60, Subpart A, section 60.11, because this flare is a control device for an emissions unit that is subject to 40 CFR Part 60, Subparts A and GGG."

38. Section C.12(c)(3) of Title V permit number P0104231 provides that "[t]he permittee shall at all times and to the extent practicable, including during periods of Startup, Shutdown, upset and/or Malfunction of refinery process units, implement good air pollution control practices to minimize emissions from its Hydrocarbon Flaring Devices consistent with 40 CFR. 60.11(d)."

Factual Background

39. Since March 1, 2011, TRC has owned and operated the petroleum refinery at 1819 Woodville Road, Oregon, Ohio (the Toledo Refinery). Prior to March 1, 2011, the Toledo Refinery was owned and operated by Sunoco, Inc. The Toledo Refinery includes, among other control equipment, two flares, known as the Plant 4 Flare (P009) and the Plant 9 Flare (P008).

40. In July 1983, EPA released report EPA 600/2-83-052, titled Flare Efficiency Study (1983 Flare Study). This study, partially funded by EPA and the Chemical Manufacturers Association (CMA), included various tests to determine the combustion efficiency and hydrocarbon destruction efficiency of flares under a variety of operating conditions. Certain tests were conducted on a steam-assisted flare provided by John Zink Company. The tests performed included a wide range of steam flows and steam-to-vent gas ratios. The data collected showed decreasing combustion efficiencies when the steam-to-vent gas ratio was above 3.5. The tests showed the following efficiencies at the following steam-to-vent gas ratios:

Pounds of Steam to One Pound of Vent Gas	Combustion Efficiency (%)
3.45	99.7
5.67	82.18
6.86	68.95

The report concluded that excessive steam-to-vent gas ratios caused steam quenching of the flame during the tests which resulted in lower combustion efficiency.

41. The Plant 4 Flare Instruction Manual provides that, “[i]f the steam valves are oversized or not set up to be proportional to waste gas flow then improper steam flow for smokeless operation will result in smoke, noise or incomplete combustion (white or gray smoke).”

42. The Plant 9 Flare Operating and Maintenance Manual provides that, “[d]uring a flaring event, the steam flow to the Shepherd and Lower Steam Rings should be adjusted to the point where smoke is not visible and the flame is a yellow-orange color. Excessive steam injection will cause high noise and can cause deterioration of destruction efficiency.”

43. TRC provided EPA with actual steam flow rates, vent gas flow rates, net heating value data, and steam-to-vent-gas ratios achieved at the Plant 4 and 9 Flares from January 1, 2006 through March 24, 2013 pursuant to a Section 114 Information Request dated March 26, 2013. These records show that TRC frequently operated at steam-to-vent gas ratios significantly above what could be considered good air pollution control practice and for which testing has demonstrated decreased combustion efficiency.

44. Specifically, TRC records show that of the 6,073 hours for which steam-to-vent gas ratios were provided at the Plant 4 Flare, there were:

- a. 1,853 hours (30.5%) during which the steam to vent gas ratio was greater than 3.45;
- b. 1,189 hours (19.6%) during which the steam to vent gas ratio was greater than 5.67; and,
- c. 940 hours (15.5%) during which the steam to vent gas ratio was greater than 6.86.

45. Of the 4,874 hours for which steam-to-vent gas ratios were provided at the Plant 9 Flare, there were:

- a. 4,284 hours (87.9%) during which the steam to vent gas ratio was greater than 3.45;
- b. 3,465 hours (71.1%) during which the steam to vent gas ratio was greater than 5.67; and,
- c. 3,392 hours (69.6%) during which the steam to vent gas ratio was greater than 6.86.

46. Publicly available documents, TRC's documents, and technical literature state that operating flares with excessive steam-to-vent gas ratios will cause flare efficiency to drop below that which it was designed to achieve. The steam-to-vent gas ratios used by TRC would not have resulted in a yellow-orange flame. TRC added more steam than is necessary for proper operation and is recommended, thereby reducing the flares' efficiency.

Violations

47. By adding too much steam to the Plant 4 Flare, TRC has failed to operate the flare in conformance with its design, in violation of 40 C.F.R. §§ 60.482-10(e), 60.592, 63.172(e), and 63.648(a), Section C.12(b)(2)(1) of Title V Permit number P0104231, and OAC Rule 3745-77-02.

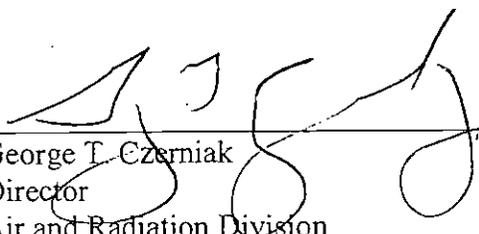
48. By adding too much steam to the Plant 4 Flare, TRC has failed to operate the flare in a manner consistent with good engineering practices to minimize emissions, in violation of 40 C.F.R. § 60.11(d), Sections C.12(b)(2)(1) and C.12(c)(3) of Title V Permit number P0104231, and OAC Rule 3745-77-02.

49. By adding too much steam to the Plant 9 Flare, TRC has failed to operate the flare in conformance with its design, in violation of 40 C.F.R. §§ 60.482-10(e), 63.172(e), and 63.648(a), Section C.11(b)(2) of Title V Permit number P0104231, and OAC Rule 3745-77-02.

50. By adding too much steam to the Plant 9 Flare, TRC has failed to operate the flare in a manner consistent with good engineering practices to minimize emissions, in violation of 40 C.F.R. § 60.11(d), Section C.11(d)(3) of Title V Permit number P0104231, and OAC Rule 3745-77-02.

9/30/13

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-5-13-OH-11, by Certified Mail, Return Receipt Requested, to:

Neal Sahni, HSE Manager
Toledo Refining Company
1819 Woodville Rd.
Oregon, Ohio 43616

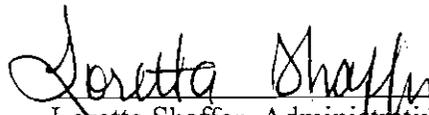
I also certify that I sent copies of the Notice of Violation and Finding of Violation by first-class mail to:

Bob Hodanbosi
Chief, Division of Air Pollution Control
Ohio Environmental Protection Agency
1800 WaterMark Drive
Columbus, Ohio 43266-1049

On the 30 day of September 2013.

CERTIFIED MAIL RECEIPT NUMBER:

7009 1480 0000 7669 5824



Loretta Shaffer, Administrative Program Assistant
Planning and Administration Section