



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

NOV 16 2005

REPLY TO THE ATTENTION OF
(AE-17J)

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Merit Energy Company
Shell Exploration & Production Company
c/o CSC-Lawyers Incorporating Service Company
601 Abbott Road
East Lansing, Michigan 48823

Re: Notice of Violation/Finding of
Violation
Merit Energy Company/Shell
Exploration & Production Company
Manistee, Michigan

Dear Sir or Madam:

The United States Environmental Protection Agency (U.S. EPA) is issuing the enclosed Notice of Violation (NOV)/Finding of Violation (FOV) to Merit Energy Company/Shell Exploration & Production Company (you) under Sections 113(a)(1) and (a)(3) of the Clean Air Act (the Act), 42 U.S.C. §§ 7413(a)(1) and (a)(3). We find that you have been and/or are violating Section 111(e) of the Act, 42 U.S.C. § 7411(e), and Standards of Performance for Onshore Natural Gas Processing at 40 C.F.R. Part 60, Subpart LLL, the Title V permit requirements in Sections 502(a), 503(c) and 504(a) of the Act, 42 U.S.C. §§ 7661a(a), 7661b(c) and 7661c(a), and the Michigan State Implementation Plan at your Manistee, Michigan facility.

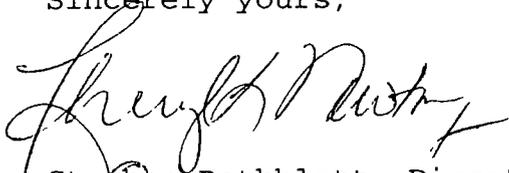
We have several enforcement options under Section 113 of the Act, 42 U.S.C. § 7413(a)(3). These options include issuing an administrative compliance order, issuing an administrative penalty order, and bringing a judicial civil or criminal action. The options we select may depend on, among other things, the length of time you take to achieve and demonstrate continuous compliance with the rules cited in the NOV/FOV.

We are offering you an opportunity to confer with us about the violations alleged in the NOV/FOV. The conference will give you the opportunity to present information on the specific findings of violation, the 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 U.S. EPA contact in this matter is Manoj P. Patel. You may call him at (312) 353-3565 to request a conference. You should make the request as soon as possible, but no later than 10 calendar days after you receive this letter. We should hold any conference within 30 calendar days of your receipt of this letter.

Sincerely yours,



Stephen Rothblatt, Director
Air and Radiation Division

Enclosure

cc: Craig R. Carver, Esq., Carver Kirchhoff Schwarz McNab & Bailey, LLC
Kathleen A. Phillips, Senior Counsel, Shell Legal-US
Randall Sanders, Operations Manager, Merit Energy Company
Vicki J. Kniss, Regulatory Affairs, Merit Energy Company
Tom Hess, Michigan DEQ, Lansing, MI
Janis Denman, Michigan DEQ, Cadillac, MI

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

IN THE MATTER OF:)
)
Merit Energy Company) **NOTICE AND FINDING OF**
Shell Exploration &) **VIOLATION**
Production Company)
Manistee, Michigan) **EPA-5-06-MI-02**
)
)
Proceedings Pursuant to)
the Clean Air Act,)
42 U.S.C. §§ 7401 et seq.)
_____)

NOTICE AND FINDING OF VIOLATION

The United States Environmental Protection Agency (U.S. EPA) is issuing this Notice of Violation (NOV)/Finding of Violation (FOV) under Section 113(a)(1) and (a)(3) of the Clean Air Act (the Act), 42 U.S.C. § 7413(a)(1) and (a)(3). U.S. EPA finds that Merit Energy Company (Merit) and Shell Exploration and Production Company (Shell) have been and/or are violating Section 111(e) of the Act, 42 U.S.C. § 7411(e), and Standards of Performance for Onshore Natural Gas Processing: SO₂ Emissions at 40 C.F.R. Part 60, Subpart LLL, 40 C.F.R. § 60.640-60.648, the Title V permit requirements in Sections 502(a), 503(c) and 504(a) of the Act, 42 U.S.C. §§ 7661a(a), 7661b(c) and 7661c(a), and the Michigan State Implementation Plan (SIP) adopted under the Act, at the Manistee facility as follows:

Statutory and Regulatory Background

New Source Performance Standards Requirements

1. On October 1, 1985, in accordance with Section 111(b) of the Act, U.S. EPA promulgated New Source Performance Standards ("NSPS") for the Onshore Natural Gas Processing Plants at 40 C.F.R. Part 60, Subpart LLL, Sections 60.640 - 60.648. 50 Fed. Reg. 40160.
2. On February 14, 1989 and October 17, 2000, U.S. EPA promulgated revisions to these regulations at 54 Fed. Reg.

6679 and 65 Fed. Reg. 61773.

3. 40 C.F.R. Part 60, Subpart LLL applies to sweetening and sulfur recovery units which are located on land and onshore that process natural gas produced from either onshore or offshore wells and which commence construction or modification after January 20, 1984.
4. 40 C.F.R. §§ 60.1-19 ("General Provisions") apply to the owner or operator of any stationary source that contains an affected facility under NSPS 40 C.F.R. Part 60.
5. 40 C.F.R. § 60.14 provides that any physical or operational change to an existing facility that results in an increase in the emission rate to the atmosphere of any pollutant to which an NSPS applies shall be considered a modification. Upon modification, an existing facility shall become an affected facility for each pollutant to which a NSPS applies and for which there is an increase in the emission rate to the atmosphere.
6. 40 C.F.R. § 60.14(b) provides that an emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable. The rule further provides that the Administrator shall use emission factors as specified in EPA Publication AP-42, mass balances, continuous monitor data, or manual emission tests to determine emission rates.
7. "Sulfur Recovery Unit" means a process device that recovers elemental sulfur from acid gas. 40 C.F.R. § 60.641.
8. "Sweetening Unit" means a process device that separates the hydrogen sulfide (H₂S) and carbon dioxides (CO₂) contents from the sour natural gas stream. 40 C.F.R. § 60.641.
9. 40 C.F.R. § 60.642(a) provides that during the initial performance test each owner or operator must achieve at a minimum, an SO₂ reduction efficiency (Z₁) to be determined from Table 1 based on the sulfur feed rate (X) and sulfur content of the acid gas (Y) of the affected facility. According to Table 1, for sulfur feed rate (X) between 15 to 300 long ton per day (LT/D) and H₂S content (Y) between 20 to 50 mole percent in the acid gas, the minimum initial SO₂ emissions reduction efficiency (Z_i) must be smaller of equation $88.51(X^{0.0101})(Y^{0.0125})$ or 97.9 percent.

10. 40 C.F.R. § 60.642(b) provides that after demonstrating compliance with Section 60.642(a) each owner or operator must achieve at a minimum, an SO₂ reduction efficiency (Z_c) to be determined from Table 2 based on the sulfur feed rate (X) and sulfur content of the acid gas (Y) of the affected facility. According to Table 2, for sulfur feed rate (X) between 15 to 300 long ton per day (LT/D) and H₂S content (Y) between 20 to 50 mole percent in the acid gas, the minimum continuous SO₂ emissions reduction efficiency (Z_c) must be smaller of equation $85.35(X^{0.0144})(Y^{0.0128})$ or 97.50 percent.
11. 40 C.F.R. § 60.646(a) requires that the owner or operator subject to Section 60.642(a) or (b) must install, calibrate, maintain, and operate monitoring devices or perform measurements to determine the following operational information on a daily basis: (1) the accumulation of sulfur product over each 24-hour period, (2) the H₂S concentration in the acid gas from the sweetening unit for each 24-hour period, (3) the average acid gas flow rate from the sweetening unit, (4) the sulfur feed rate (X), and (5) the required sulfur dioxide emission reduction efficiency for the 24-hour period.
12. 40 C.F.R. § 60.646(b) requires that when compliance is achieved through the use of an oxidation control system or a reduction control system followed by a continually operated incineration device, the owner or operator must install, calibrate, maintain, and operate monitoring devices and continuous emission monitors to measure the total sulfur emission rate (E) of SO₂ in the gases discharged to the atmosphere.
13. 40 C.F.R. § 60.646(e) provides that those sources with a design capacity of less than 150 LT/D of H₂S expressed as sulfur may alternatively comply by calculating the sulfur emission reduction efficiency achieved for each 24-hour period using the equation provided in § 60.646(e).
14. 40 C.F.R. § 60.646(g) states that the continuous monitoring systems required in § 60.646(b) must be subject to the emission monitoring requirements of Section 60.13 of Subpart A.
15. 40 C.F.R. § 60.647(a) requires that the owner or operator

subject Subpart LLL must retain records of the calculations and measurements required in Sections 60.642(a) and (b) and 60.646(a) through (g) for least 2 years following the date of measurements.

16. 40 C.F.R. § 60.647(b) requires that the owner or operator must submit a written report of excess emissions to the Administrator semiannually.
17. 40 C.F.R. § 60.7 requires that any owner or operator subject to the provisions of Part 60 provide written notification to the Administrator of the date construction is commenced, the date of start up, and any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a NSPS applies.
18. Section 111(e) of the Act, 42 U.S.C. § 7411(e), prohibits an owner or operator of a new source from operating that source in violation of a NSPS after the effective date of the applicable NSPS to such source.

Michigan SIP Requirements

19. On May 6, 1980, U.S.EPA approved Rule R336.1912 (Abnormal conditions and Breakdown of Equipment) as part of the federally enforceable SIP for Michigan. 45 Fed. Reg. 29790.
20. Rule 912 states that the owner or operator of a source of emissions exceeding any applicable emission limit as a direct result of abnormal conditions in, or breakdown of, process or control equipment continuing for more than 2 hours shall do the both of the following: (a) Notify the commission or air quality division as soon as is reasonably possible. (b) Submit to the commission, in writing, within 10 days, a detailed report, including probable causes, duration of violation, remediation action taken, and what steps are being undertaken to prevent a reoccurrence.

Title V Permit Program

21. Title V of the Act, 42 U.S.C. §§ 7661a-7661f, establishes an operating permit program for certain sources, including "major sources." Pursuant to Section 502(b) of the Act, 42 U.S.C. § 7661a(b), on July 21, 1992, U.S.EPA promulgated

regulations establishing the minimum elements of a permit program to be administered by any air pollution control agency. 57 Fed. Reg. 32295. These regulations are codified at 40 C.F.R. Part 70.

22. 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.
23. U.S. EPA granted interim approval of the State of Michigan operating permit program with an effective date of February 10, 1997. See 40 C.F.R. Part 70, Appendix A. U.S. EPA granted final approval effective on November 30, 2001. See 40 C.F.R. Part 70, Appendix A.
24. Section 503(c) of the Act, 42 U.S.C. § 7661b(c), has at all relevant times provided that any person required to have a permit shall submit to the permitting authority a compliance plan and an application for a permit signed by a responsible official who shall certify the accuracy of the information submitted. Section 503(b) of the Act, 42 U.S.C. § 7661b(b), requires a compliance plan to include, among other things, a "schedule of compliance." Section 501(3) of the Act, 42 U.S.C. § 7661(3), defines a "schedule of compliance" as "a schedule of remedial measures, including an enforceable sequence of actions or operations, leading to compliance with an applicable implementation plan, emission standard, emission limitation, or emission prohibition."
25. Section 504(a) of the Act, 42 U.S.C. § 7661c(a), has at all relevant times required that each Title V permit include, among other things, enforceable emission limitations and standards, a schedule of compliance, and such other conditions as are necessary to assure compliance with applicable requirements of the Act and the requirements of the applicable SIP.
26. Section 70.1(b) of the Title V permit regulations, 40 C.F.R. § 70.1(b), requires all subject sources to have a permit to operate that assures compliance with all applicable requirements. Section 70.2 of the Title V permit regulations, 40 C.F.R. § 70.2, defines "applicable requirement" as "...(1) Any standard or other requirement

provided for in the applicable implementation plan approved or promulgated by EPA through rulemaking under Title I of the Act that implements the relevant requirements of the Act, including any revisions to that plan promulgated in part 52 of this chapter; ... (3) Any standard or requirement under Section 111 of the Act, including Section 111(d);..."

Factual Background

27. Merit owns and operates a sour gas processing plant in Manistee, Michigan (Manistee facility). Prior to December 1, 2003, Shell owned and operated this facility.
28. In 1978, Shell installed, among other things, an amine treatment process which separates H₂S and CO₂ from the sour gas by sulfinol solution at its Manistee facility. Shell also installed two three-stage Claus Sulfur Recovery Units (SRU) in 1978 and began operation in or around 1979. At that time, the SRU capacity of each stage was approximately 12 long tons per day (LT/D) of H₂S in the acid gas (expressed as sulfur), with a combined capacity of 24 LT/D. The SRU converts the H₂S/acid gas from the amine treatment process to elemental sulfur.
29. On December 5, 2002, three duly delegated representatives of U.S. EPA conducted an inspection of the Manistee facility to assess compliance with the Act.
30. On June 27, 2003, U.S. EPA issued a Request for Information to the Manistee facility under Section 114 of the Act, 42 U.S.C. § 7414.
31. On August 14 and 27, 2003, Shell responded to U.S. EPA's Request for Information.
32. On October 26, 2004, U.S. EPA issued another Request for Information to Shell under Section 114 of the Clean Air Act, 42 U.S.C. § 7414.
33. On February 24, and March 4, 2005, Merit submitted its responses to U.S. EPA's October 26, 2004 Request for Information.
34. Between October 1995 through 2000, Shell modified the capacity of SRUs at the Manistee facility.

35. Shell's physical change to the SRU has resulted in an increase in the SO₂ emissions into the atmosphere.
36. The SRU is subject to 40 C.F.R. Part 60, Subpart LLL because the modification described in paragraph 34 above constitutes a modification as defined in 40 C.F.R. § 60.14.
37. On or about October 8, 1996, Shell submitted an application to the Michigan Department of Environmental Quality (MDEQ) for a Title V permit. In its application, Shell stated that 40 C.F.R. Part 60, Subpart LLL did not apply to its Manistee facility.
38. On February 22, 2000, MDEQ issued a Title V permit (#199600253) to Shell. On April 2, 2004, MDEQ also issued an Administrative Amendment to a Title V permit to Merit.
39. Table E-1.1 EG-MN-23 of Shell/Merit's Title V permit allows no more than 3,970 lbs and 993 lbs temporary emissions with a combined limit of 4,963 lbs SO₂ for any consecutive 24-hour period from the SRU.
40. Table E-1.1 EG-MN-23 of Shell/Merit's Title V permit allows emitting no more than 1000 lbs SO₂ per hour for a maximum of eight hours from the SRU to the emergency flare during either startup or malfunction event.
41. Shell and/or Merit reported the following SRU reduction efficiency:

<i>Day</i>	<i>Reported Emission Reduction Efficiency (R)</i>	<i>Required SO₂ Emissions Reduction Efficiency (Zc) by 40 C.F.R. § 60.642(b)</i>
April 29, 2003	87.80%	92.3%
November 4, 2003	87.40%	91.2%
December 18, 2003	87.30%	91.5%

42. Shell and/or Merit reported the following SO₂ emissions from the SRU during start-up or malfunction event:

Day	Plant Down Time (in Hours)	Flare Time (in Hours)	SO ₂ Emitted into the Atmosphere (in lbs)
January 4, 2000	8	2.5	4,011
January 7, 2000	2	2	3,887
January 16, 2000	5	1.5	2,407
April 6, 2000	0	0.5	1,728
April 14, 2000	2.5	1.5	3,339
October 4, 2000	1	1	1,225
December 6, 2000	0.75	4	4,612
February 18, 2001	7.5	2	2,266
February 19, 2001	23.75	1	2,134
February 20, 2001	4	1.5	3,201
March 26, 2001	5	1	3,121
March 30, 2001	8.5	1.5	2,308
April 2, 2001	3	1	2,066
April 18, 2001	1	0.5	1,258
April 25, 2001	5	1	1,509
April 29, 2001	5	1	1,972
May 8, 2001	1.5	0.75	1,024
May 12, 2001	15	3.5	6,240
September 19, 2001	0.5	1	2,258
April 9, 2002	5	0.5	1,396
April 13, 2002	3.75	1	1,675
April 25, 2002	0.5	1	1,675
April 30, 2002	1	0.5	1,094
July 6, 2002	4	3.5	7,998
July 14, 2002	4	2	3,499
September 9, 2002	0.5	1	3,041
September 13, 2002	0.5	1.5	5,549
October 15, 2002	5	0.5	1,909
October 20, 2002	5	0.5	1,229
October 26, 2002	15	2	3,763
December 17, 2002	0.5	1	1,527
March 3, 2003	8	2	2,409
March 4, 2003	8	2	4,538
March 10, 2003	1	1	2,409
May 1, 2003	6	2	5,078
May 2, 2003	2	0.5	1,270
May 3, 2003	6	1	3,943
May 4, 2003	5.5	1	3,241
May 5, 2003	8	1	1,944
May 6, 2003	4	1	1,348

May 9, 2003	2	1	3,943
May 21, 2003	9	2	5,078
November 5, 2003	10	0.5	1,189
December 3, 2003	4.5	1.5	5,914
December 25, 2003	0.5	1	1,310
April 19, 2004	5	0.75	2,431
June 14, 2004	14	2	2,639
July 9, 2004	1	1	1,233
September 3, 2004	6	1	1,233
September 5, 2004	4.5	1	1,233
September 7, 2004	4	1	2,323
September 11, 2004	4	1	1,944
September 15, 2004	7	0.5	1,621
September 16, 2004	2	0.5	1,162

43. On October 25, 2002, Shell emitted 5,194 lbs SO₂ into the atmosphere from the SRU.

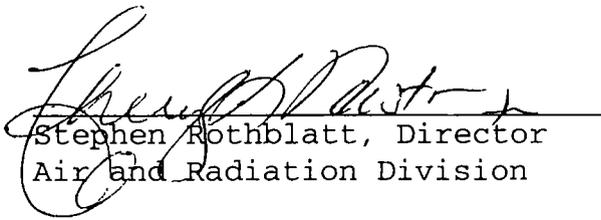
Violations

44. Shell and Merit violated 40 C.F.R. § 60.642(b) by failing to achieve the minimum required reduction efficiency across the SRUs on April 29, November 4, and December 18, 2003.
45. Shell and Merit violated, and Merit continues to violate, 40 C.F.R. § 60.646(a)(2) by failing to install, calibrate, maintain, and operate a monitoring device or perform measurements to determine H₂S concentration in the acid gas from the sweetening unit for each 24-hour period.
46. Shell and Merit violated, and Merit continues to violate, 40 C.F.R. § 60.646(a)(5) by failing to install, calibrate, maintain, and operate a monitoring device or perform measurements to determine the required sulfur dioxide reduction efficiency for each 24-hour period.
47. Shell and Merit violated, and Merit continues to violate, 40 C.F.R. §§ 60.647(a) and 60.7(d) by failing to keep records of the calculations and measurements required in Sections 60.642(a) and (b) and 60.646(a) through (g).
48. Shell and Merit have violated 40 C.F.R. § 60.647(b) by failing to submit excess emissions reports to U.S. EPA for periods in April, November and December 2003 during which the average sulfur emissions reduction efficiency (R) was less than the minimum required efficiency (Z).

49. Shell violated Title V permit condition in Table E-1.1 EG-MN-23 by emitting more than 4,963 lbs SO₂ on October 25, 2002. Shell's SRU operation in violation of its Title V permit constitutes a violation of Section 502 of the Act and of 40 C.F.R § 70.7(b).
50. Shell/Merit violated Title V permit condition in Table E-1.1 EG-MN-23 by emitting more than 1,000 lbs SO₂/hour through the emergency flare during startup or malfunction events identified in paragraph 42. Shell/Merit's SRU operation in violation of its Title V permit constitutes a violation of Section 502 of the Act and of 40 C.F.R § 70.7(b).
51. Shell and Merit violated, and Merit continues to violate, Michigan SIP Rule 336.1912 by failing to notify and submit in writing to the Air Quality Division of the Michigan Department of Environmental Quality detailed reports regarding exceeding the applicable emission limit as a direct result of abnormal conditions in, or breakdown of, process or control equipment continuing for more than 2 hours identified in paragraph 42.
52. Shell failed to submit an application for a Title V operating permit for the Manistee facility that identifies all applicable requirements and contains a compliance plan for all applicable requirements for which the source was not in compliance (including the requirement to meet the NSPS at 40 C.F.R. Part 60, Subpart LLL). Shell and Merit thereafter operated the SRUs at the Manistee facility without meeting such limitations and requirements and without having a valid operating permit that required compliance with such limitations and requirements or that contained a compliance plan for all applicable requirements for which the source was not in compliance. Shell and Merit's conduct violated Sections 503(c) and 504(a) of the Act, 42 U.S.C. §§ 7661b(c) and 7661c(a).

Date

11/16/05


Stephen Rothblatt, Director
Air and Radiation Division

CERTIFICATE OF MAILING

I, Shanee Rucker, certify that I sent Notice and Finding of Violation, No. EPA-5-06-MI-02, by Certified Mail, Return Receipt Requested, to:

Merit Energy Company
Shell Exploration & Production Company
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Kathleen A. Phillips, Senior Counsel
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I also certify that I sent copies of the Notice and Finding of Violation by first class mail to:

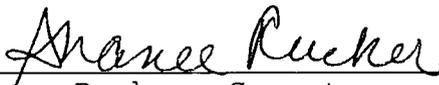
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Regulatory Affairs - Michigan
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On the 17th day of November 2005.


Shane Rucker, Secretary
AECAS (MI/WI)

Certified Mail Receipt Number: 7001 0320 0006 1447 9499