



July 28, 2017

CERTIFIED: 7008 2810 0002 1315 0961

Department of Environmental Quality
Office of Environmental Compliance
Enforcement Division
P.O. Box 4312
Baton Rouge, LA 70821-4312

Re: NSPS Excess Emissions & CEM Performance Report – 2nd Quarter 2017
Valero Refining - Meraux LLC, Agency Interest # 1238
2500 East St. Bernard Hwy., St. Bernard Parish, Meraux, LA
Title V Permit Numbers: 2500-00001-V15

Gentlemen,

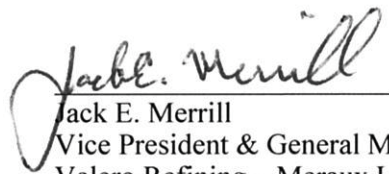
Valero Refining, Meraux LLC hereby submits this Excess Emissions and Monitoring Systems Reports, per LAC 33:III, Chapter 30, 40 CFR 60.7(c), 40 CFR 60.108a(d) and 40 CFR 63.1575 for the Second Quarter 2017.

For this reporting period, no CEMS had excess emissions greater than 1 % of the total operating time and no CEMS had downtime greater than 5 % of the total operating time. There were no changes to the CEMS covered by this report in the 2nd Quarter 2017. Enclosed are the Data Assessment Reports for the appropriate CEMS and information required by NSPS Subpart Ja, 40 CFR 60.108a(d). Subpart Ja root cause and corrective action analysis reports are included with this submittal. Updates to previously submitted Subpart Ja root cause and corrective action analysis reports are also included if corrective actions were completed in this reporting period.

Should you have any questions regarding this submission, please contact Mr. Justin Stubbe at (504) 271-4141.

I certify, based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

Regards,


Jack E. Merrill
Vice President & General Manager
Valero Refining – Meraux LLC

Enclosures

cc: Mr. Brian Tusa, LDEQ SE Regional Office, New Orleans, LA

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **SO₂**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: SO₂ corrected to 0% O₂ shall not exceed 250 ppm on a 12-hour rolling average

Monitor Manufacturer and Model No.: Brimstone SGX-231(SO₂)/Rosemount Oxymitter 4000(O₂)

Date of Latest CMS Certification or Audit: RATA on 4/25/17

Process Unit(s) Description: #2 SRU Incinerator (EPN 1-93, EQT 0019)

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0%

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	4
d. Other known causes	1
e. Unknown causes	0
2. Total CMS Downtime	5
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.2%

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **SO₂**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: SO₂ corrected to 0% O₂ shall not exceed 250 ppm on a 12-hour rolling average.

Monitor Manufacturer and Model No.: Brimstone 991-CEM-X(SO₂)/ Rosemount Oxymitter 4000(O₂)

Date of Latest CMS Certification or Audit: RATA on 4/24/17

Process Unit(s) Description: #3 SRU Incinerator (EPN 5-00, EQT 0079)

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	5
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	5
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.2 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

**SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: J

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average

Monitor Manufacturer and Model No.: Ametek, #4661

Date of Latest CMS Certification or Audit: RATA on 4/25/17

Process Unit(s) Description: Area 1 Fuel Drum for Boiler TB-01 (EPN 1-06, EQT 0010), Boiler B-7 (EPN 1-07, EQT 0011), MDH
Product and Fractionator Heaters (EPN 2-92, EQT 0033)

Total source operating time in reporting period: EQT 0010- 1,943 hours, EQT 0011- 2,184 hours, EQT 0033-2,184 hours

Emissions Data Summary¹			
1. Duration of excess emissions in reporting period due to:	<i>EQT 0010 (hours)</i>	<i>EQT 0011 (hours)</i>	<i>EQT 0033 (hours)</i>
a. Startup/shutdown	0	0	0
b. Control equipment problems	0	0	0
c. Process problems	0	0	0
d. Other known causes	0	0	0
e. Unknown causes	0	0	0
2. Total duration of excess emission	0	0	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %	0.0 %	0.0 %

CMS Performance Summary¹			
1. CMS downtime in reporting period due to:	<i>EQT 0010 (hours)</i>	<i>EQT 0011 (hours)</i>	<i>EQT 0033 (hours)</i>
a. Monitor equipment malfunctions	0	0	0
b. Non-Monitor equipment malfunctions	0	0	0
c. Quality assurance calibration	1	1	0
d. Other known causes	0	0	0
e. Unknown causes	0	0	0
2. Total CMS Downtime	1	1	0
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.1%	0.0 %	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted. (Percentage based on the lowest operating time.)

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: J

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Subpart J: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: RATA on 4/25/17

Process Unit(s) Description: Area 2 Fuel Drum for: Vacuum Heater (EPN 1-76, EQT 0013); No.1 Crude Heater (EPN 12-72A, EQT 0022); NHT Charge Heater (EPN 14-72, EQT 0023); NHT Debut Reboiler (EPN 15-72, EQT 0024); NHT Depent Reboiler (EPN 16-72 EQT 0027); Platformer Charge Heater (EPN 17-72 a,b,c , EQT 0028); Platformer Debut Reboiler (EPN 19-72, EQT 0029); DHT Charge Heater (EPN 5-73, EQT 0058); ROSE Heater (EPN 1-80, EQT 0014)

Total source operating time in reporting period: EQT 0013-2,184 hours; EQT 0022-2,184 hours; EQT 0023-2,181 hours; EQT 0024-2,179 hours; EQT 0027-2,180 hours; EQT 0028-2,179 hours; EQT 0029-2,182 hours; EQT 0058 – 2,181 hours; EQT 0014 - 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0%

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	2
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	2
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.1 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Subpart Ja: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average and 60 ppm on a 365 day rolling average.

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: RATA on 4/25/17

Process Unit(s) Description: Area 2 Fuel Drum for Benzene Recovery Unit Reboiler (EPN 1-09, EQT 0127)

Total source operating time in reporting period: 2,157 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0%

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	2
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	2
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.1 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: J

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: RATA on 4/26/17

Process Unit(s) Description: Area 4 Fuel Drum for Merox Disulfide Separator to Platformer Charge Heater

Total source operating time in reporting period: 2,171 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	1
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

**SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: J

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: RATA on 4/25/17

Process Unit(s) Description: Area 6 Fuel Drum for Hydrocracker & Hydrotreater Charge Heaters (EPN 1-00, EQT 0009)

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	1
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: J

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: RATA on 4/25/17

Process Unit(s) Description: Area 6 Fuel Drum for Boiler B-5 (EPN 2-00, EQT 0030) and Boiler B-6 (EPN 3-00, EQT 0048)

Total source operating time in reporting period: EQT 0030-2,184 hours; EQT 0048-2,184 hours

Emissions Data Summary¹		
1. Duration of excess emissions in reporting period due to:	<i>EQT 0030 (hours)</i>	<i>EQT 0048 (hours)</i>
a. Startup/shutdown	0	0
b. Control equipment problems	0	0
c. Process problems	0	0
d. Other known causes	0	0
e. Unknown causes	0	0
2. Total duration of excess emission	0	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %	0.0 %

CMS Performance Summary¹		
1. CMS downtime in reporting period due to:	<i>EQT 0030 (hours)</i>	<i>EQT 0048 (hours)</i>
a. Monitor equipment malfunctions	0	0
b. Non-Monitor equipment malfunctions	0	0
c. Quality assurance calibration	1	1
d. Other known causes	0	0
e. Unknown causes	0	0
2. Total CMS Downtime	1	1
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d))

Pollutant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide shall not exceed 0.1 pound/MMBtu on a 30-day rolling average.

Monitor Manufacturer and Model No.: ABB Limas11(NOx), Magnos27 (O₂)

Date of Latest CMS Certification or Audit: RATA on 4/26/17

Process Unit(s) Description: Boiler B-5 (EPN 2-00, EQT 0030)

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	5
e. Unknown causes	0
2. Total CMS Downtime	5
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.2%

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

**SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(d))

Pollutant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide shall not exceed 0.1 pound/MMBtu on a 30-day rolling average.

Monitor Manufacturer and Model No.: ABB Limas11(NOx), Magnos27 (O₂)

Date of Latest CMS Certification or Audit: RATA on 4/26/17

Process Unit(s) Description: Boiler B-6 (EPN 3-00, EQT 0048)

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	3
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	3
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.1%

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

**SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(d))

Pollutant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide shall not exceed 0.1 pound/MMBtu on a 30-day rolling average.

Monitor Manufacturer and Model No.: Thermo Environmental 42i (NO_x)/(O₂)

Date of Latest CMS Certification or Audit: RATA on 4/24/17

Process Unit(s) Description: Boiler TB-01 (EPN 1-06, EQT 0010)

Total source operating time in reporting period: 1,943 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	29
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	29
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	1.5 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **NO_x**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide corrected to 0% O₂ shall not exceed 40 ppm on a 30-day rolling average

Monitor Manufacturer and Model No.: Thermo Environmental 42i (NO_x)/(O₂)

Date of Latest CMS Certification or Audit: RATA on 4/25/17

Process Unit(s) Description: Benzene Recovery Unit Reboiler (EPN 1-09, EQT 0127)

Total source operating time in reporting period: 2,157 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	1
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **NO_x**

Applicable NSPS Subpart: N/A (Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 36.a)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: ABB Limas11(NOx), Magnos27 (O₂)

Date of Latest CMS Certification or Audit: RATA on 4/26/17

Process Unit(s) Description: No.1 Crude Heater (EPN 12-72A, EQT 0022)

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	28
e. Unknown causes	0
2. Total CMS Downtime	28
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), North Flare Header

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	4
e. Unknown causes	0
2. Total duration of excess emission	4
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.2 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0%

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

**SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), Hydrocracker Flare Header

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

**SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: South Flare Stack (EPN 3-77, EQT 0049)

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **Total Sulfur**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), North Flare Header

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	2
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	2
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.1%

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **Total Sulfur**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), Hydrocracker Flare Header

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	2
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	2
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.1 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **Total Sulfur**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: South Flare Stack (EPN 3-77, EQT 0049)

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	6
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	6
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.3 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **Flow**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), North Flare Header

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **Flow**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), Hydrocracker Flare Header

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

(per 40 CFR 60.7(d) and 60.108a(d))

Pollutant: **Flow**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

Process Unit(s) Description: South Flare Stack (EPN 3-77, EQT 0049)

Total source operating time in reporting period: 2,184 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>(hours)</i>
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary¹	
1. CMS downtime in reporting period due to:	<i>(hours)</i>
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **SO₂**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: SO₂ corrected to 0% O₂ shall not exceed 250 ppm on a 12-hour rolling average

Monitor Manufacturer and Model No.: Brimstone SGX-231(SO₂)/Rosemount Oxymitter 4000(O₂)

Date of Latest CMS Certification or Audit: RATA on 4/25/17

Process Unit(s) Description: #2 SRU Incinerator (EPN 1-93, EQT 0019)

Total source operating time in reporting period: 2,184 hours

Ja EXCESS EMISSIONS						
Date	Start	End	Duration (hours)	Max 12-HRA (ppm)	Cause	Corrective Action
None						
TOTAL			0			

Ja CMS PERFORMANCE¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
4/25/17	09:00	12:00	3	Offline for annual preventative maintenance.	Calibrated and returned to service.
5/17/17	08:00	09:00	1	Offline while rodding out probe.	Calibrated and returned to service.
6/23/17	10:00	11:00	1	Offline to replace cell windows.	Calibrated and returned to service.
TOTAL			5		

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **SO₂**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: SO₂ corrected to 0% O₂ shall not exceed 250 ppm on a 12-hour rolling average.

Monitor Manufacturer and Model No.: Brimstone 991-CEM-X(SO₂)/ Rosemount Oxymitter 4000(O₂)

Date of Latest CMS Certification or Audit: RATA on 4/24/17

Process Unit(s) Description: #3 SRU Incinerator (EPN 5-00, EQT 0079)

Total source operating time in reporting period: 2,184 hours

Ja EXCESS EMISSIONS						
Date	Start	End	Duration (hours)	Max 12-HRA (ppm)	Cause	Corrective Action
None						
TOTAL			0			

Ja CMS PERFORMANCE ¹						
Date	Start	End	Duration (hours)	Cause	Corrective Action	
4/26/17	08:00	12:00	4	Offline for annual preventative maintenance.	Calibrated and returned to service.	
5/26/17	08:00	09:00	1	Adjusted for calibration drift.	Calibrated and returned to service.	
TOTAL			5			

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average and 60 ppm on a 365 day rolling average

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: RATA on 4/24/17

Process Unit(s) Description: Area 2 Fuel Drum for Benzene Recovery Unit Reboiler (EPN 1-09, EQT 0127)

Total source operating time in reporting period: 2,157 hours

Ja EXCESS EMISSIONS						
Date	Start	End	Duration (hours)	Max 3-HRA (ppm)	Cause	Corrective Action
None						
TOTAL			0			

Ja CMS PERFORMANCE ¹						
Date	Start	End	Duration (hours)	Cause	Corrective Action	
4/25/17	12:00	13:00	1	Relative Accuracy Test Assessment.	N/A	
6/28/17	07:00	08:00	1	Replaced filters.	Calibrated and returned to service.	
TOTAL			2			

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **NO_x**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide corrected to 0% O₂ shall not exceed 40 ppm on a 30-day rolling average

Monitor Manufacturer and Model No.: Thermo Environmental 42i (NO_x)/(O₂)

Date of Latest CMS Certification or Audit: RATA on 4/25/17

Process Unit(s) Description: Benzene Recovery Unit Reboiler (EPN 1-09, EQT 0127)

Total source operating time in reporting period: 2,157 hours

Ja EXCESS EMISSIONS						
Date	Start	End	Duration (hours)	Max 30-DRA (ppm)	Cause	Corrective Action
None						
TOTAL			0			

Ja CMS PERFORMANCE¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
6/15/17	11:00	12:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
TOTAL			1		

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), North Flare Header

Total source operating time in reporting period: 2,184 hours

Ja EXCESS EMISSIONS						
Date	Start	End	Duration (hours)	Max 3-HRA (ppm)	Cause	Corrective Action
6/10/17	16:00	20:00	4	300	H ₂ S > 162 ppm, 3-HRA, with SO ₂ emissions less than 500 lbs/day above the allowable limit due to the inadvertent closing of the isolation valve separating the North Flare Header from the suction of the Flare Gas Recovery Compressor while refilling the Liquid Seal after a period of flaring. For causes and corrective actions, see the root cause and corrective action analysis dated 6/9/17 in Appendix B of this report.	
TOTAL			4			

Ja CMS PERFORMANCE²						
Date	Start	End	Duration (hours)	Cause	Corrective Action	
None						
TOTAL			0			

¹Due to the physical arrangement of the headers supplying the North Flare Stack (EPN 20-72, EQT 0035), two analyzers are required to measure H₂S concentration of the gas combusted in the North Flare. Conservatively, excess emission on either of these analyzers will be considered excess emissions at the North Flare. However, the CEMS performance will be tracked separately.

²In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), Hydrocracker Flare Header

Total source operating time in reporting period: 2,184 hours

Ja EXCESS EMISSIONS						
Date	Start	End	Duration (hours)	Max 3-HRA (ppm)	Cause	Corrective Action
None						
TOTAL			0			

Ja CMS PERFORMANCE ²						
Date	Start	End	Duration (hours)	Cause	Corrective Action	
None						
TOTAL			0			

¹Due to the physical arrangement of the headers supplying the North Flare Stack (EPN 20-72, EQT 0035), two analyzers are required to measure H₂S concentration of the gas combusted in the North Flare. Conservatively, excess emission on either of these analyzers will be considered excess emissions at the North Flare. However, the CEMS performance will be tracked separately.

²In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: South Flare Stack (EPN 3-77, EQT 0049)

Total source operating time in reporting period: 2,184 hours

Ja EXCESS EMISSIONS						
Date	Start	End	Duration (hours)	Max 3-HRA (ppm)	Cause	Corrective Action
None						
TOTAL			0			

Ja CMS PERFORMANCE ¹						
Date	Start	End	Duration (hours)	Cause	Corrective Action	
None						
TOTAL			0			

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **Total Sulfur**

Applicable NSPS Subpart: Ja (Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), North Flare Header

Total source operating time in reporting period: 2,184 hours

Ja CMS PERFORMANCE¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
4/27/17	09:00	11:00	2	Relative Accuracy Test Assessment.	N/A
TOTAL			2		

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **Total Sulfur**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), Hydrocracker Flare Header

Total source operating time in reporting period: 2,184 hours

Ja CMS PERFORMANCE ¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
4/27/17	09:00	11:00	2	Relative Accuracy Test Assessment.	N/A
TOTAL			2		

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **Total Sulfur**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: RATA on 4/27/17

Process Unit(s) Description: South Flare Stack (EPN 3-77, EQT 0049)

Total source operating time in reporting period: 2,184 hours

Ja CMS PERFORMANCE ¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
4/12/17	11:00	13:00	2	Adjusted for calibration drift.	Calibrated and returned to service.
4/27/17	09:00	11:00	2	Relative Accuracy Test Assessment.	N/A
6/15/17	09:00	11:00	2	Adjusted for calibration drift.	Calibrated and returned to service.
TOTAL			6		

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **Flow**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), North Flare Header

Total source operating time in reporting period: 2,184 hours

Ja CMS PERFORMANCE ¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
None					
TOTAL			0		

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **Flow**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), Hydrocracker Flare Header

Total source operating time in reporting period: 2,184 hours

Ja CMS PERFORMANCE ¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
None					
TOTAL			0		

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

**GASEOUS AND OPACITY EXCESS EMISSIONS AND
MONITORING SYSTEMS PERFORMANCE**

(per 40 CFR 60.7(c) and 60.108a(d))

Pollutant: **Flow**

Applicable NSPS Subpart: Ja (Also Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

Process Unit(s) Description: South Flare Stack (EPN 3-77, EQT 0049)

Total source operating time in reporting period: 2,184 hours

Ja CMS PERFORMANCE¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
None					
TOTAL			0		

¹In accordance with 40 CFR 60.108a(d)(6), changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit have been compared with operation of the control system and affected facility before and following the period of data unavailability to ensure that any changes made in operation of the emission control system during the period of data unavailability did not affect the ability of the system to meet the applicable emission limit.

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **SO₂**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: SO₂ corrected to 0% O₂ shall not exceed 250 ppm on a 12-hour rolling average.

Monitor Manufacturer and Model No.: Brimstone SGX-231(SO₂)/Rosemount Oxymitter 4000(O₂)

Source unit: #2 SRU Incinerator (EPN 1-93, EQT 0019)

CEM Sampling Location: #2 SRU Incinerator (#1-93)

CEM Span Value: Sulfur Dioxide 500 ppm; Oxygen 25%

I. ACCURACY ASSESSMENT RESULTS (RATA):

SO ₂ corrected to 0% O ₂	
Date of Audit	4/25/17
Reference Method	EPA Method 6C/ EPA Method 3A
Average RM Value (ppmv)	78.89
Average CEM Value (ppmv)	68.79
Accuracy	4.53 %
Limit	< 10%

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **SO₂**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: SO₂ corrected to 0% O₂ shall not exceed 250 ppm on a 12-hour rolling average.

Monitor Manufacturer and Model No.: Brimstone 991-CEM-X (SO₂), Rosemount Oxymitter 4000 (O₂)

Source unit: #3 SRU Incinerator (EPN 5-00, EQT 0079)

CEM Sampling Location: #3 SRU Incinerator (#5-00)

CEM Span Value: Sulfur Dioxide 500 ppm; Oxygen 25%

I. ACCURACY ASSESSMENT RESULTS (RATA):

SO ₂ corrected to 0% O ₂	
Date of Audit	4/24/17
Reference Method	EPA Method 6C/ EPA Method 3A
Average RM Value (ppmv)	36.36
Average CEM Value (ppmv)	32.75
Accuracy	2.05 %
Limit	< 10%

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **H₂S**

Applicable NSPS Subpart: J

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 4661

Source Unit: Area 1 Fuel Drum for Boiler TB-01 (EPN 1-06, EQT 0010)

CEM Sampling Location: Area 1 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S #1</u>	<u>H₂S #2</u>
Date of Audit	4/25/17	4/25/17
Reference Method	EPA Method 11 (Alternate RATA)	EPA Method 11 (Alternate RATA)
Average RM Value (ppmv)	74.24	166.80
Average CEM Value (ppmv)	71.51	161.80
Accuracy	3.68 %	3.00 %
Limit	< 15 %	< 15 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **H₂S**

Applicable NSPS Subpart: J and Ja (Benzene Recovery Unit Reboiler Subject to Ja)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average(J and Ja) and 60 ppm on a 365 day rolling average (Ja only)

Monitor Manufacturer and Model No.: Ametek 4661

Source Unit: Area 2 Fuel Drum for: MDH Product and Fractionator Heaters (EPN 2-92, EQT 0033); No.1 Crude Heater (EPN 12-72A, EQT 022); ROSE Heater (EPN 1-80, EQT 0014); Vacuum Heater (EPN 1-76, EQT 0013); Platformer Charge Heater (EPN 17-72 a,b,c , EQT 0028); Platformer Debut Reboiler (EPN 19-72, EQT 0029); NHT Charge Heater (EPN 14-72, EQT 0023); NHT Debut Reboiler (EPA 15-72, EQT 0024); NHT Depent Reboiler (EPA 16-72, EQT 0027); DHT Charge Heater (EPN 5-73, EQT 0058); Benzene Recovery Unit Reboiler (EPN 1-09, EQT 0127)

CEM Sampling Location: Area 2 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S #1</u>	<u>H₂S #2</u>
Date of Audit	4/25/17	4/25/17
Reference Method	EPA Method 11 (Alternate RATA)	EPA Method 11 (Alternate RATA)
Average RM Value (ppmv)	74.24	166.80
Average CEM Value (ppmv)	84.80	191.44
Accuracy	14.22 %	14.77 %
Limit	< 15 %	< 15 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **H₂S**

Applicable NSPS Subpart: J

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 4661

Process Unit(s) Description: Area 4 Fuel Drum for Merox Disulfide Separator to Platformer Charge Heater

CEM Sampling Location: Area 4 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S #1</u>	<u>H₂S #2</u>
Date of Audit	4/26/17	4/26/17
Reference Method	EPA Method 11 (Alternate RATA)	EPA Method 11 (Alternate RATA)
Average RM Value (ppmv)	74.24	166.80
Average CEM Value (ppmv)	73.44	166.26
Accuracy	1.08 %	0.33 %
Limit	< 15 %	< 15 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **H₂S**

Applicable NSPS Subpart: J

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 4661

Process Unit(s) Description: Area 6 Fuel Drum for Hydrocracker & Hydrotreater Charge Heaters (EPN 1-00, EQT 0009)

CEM Sampling Location: Area 6 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S #1</u>	<u>H₂S #2</u>
Date of Audit	4/25/7	4/25/7
Reference Method	EPA Method 11 (Alternate RATA)	EPA Method 11 (Alternate RATA)
Average RM Value (ppmv)	74.24	166.80
Average CEM Value (ppmv)	74.96	166.42
Accuracy	0.97 %	0.23 %
Limit	< 15 %	< 15 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **H₂S**

Applicable NSPS Subpart: J

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 4661

Process Unit(s) Description: Area 6 Fuel Drum for Boilers B-5 (EPN 2-00, EQT 0030) and B-6 (EPN 3-00, EQT 0048)

CEM Sampling Location: Area 6 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S #1</u>	<u>H₂S #2</u>
Date of Audit	4/25/17	4/25/17
Reference Method	EPA Method 11 (Alternate RATA)	EPA Method 11 (Alternate RATA)
Average RM Value (ppmv)	74.24	166.80
Average CEM Value (ppmv)	73.23	164.22
Accuracy	1.37 %	1.55 %
Limit	< 15 %	< 15 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide shall not exceed 0.1 pound/MMBtu on a 30-day rolling average.

Monitor Manufacturer and Model No.: ABB Limas11(NOx), Magnos27 (O₂)

Process Unit(s) Description: Boiler B-5 (EPN 2-00, EQT 0030)

CEM Sampling Location: Boiler B-5

CEM Span Value: Nitrogen Oxide 100 ppm, Oxygen 25 %

I. ACCURACY ASSESSMENT RESULTS (RATA):

NO _x lb/MMBtu	
Date of Audit	4/26/17
Reference Method	EPA Method 7E / EPA Method 3A
Average RM Value	0.0325 lb/MMBtu
Average CEM Value	0.0370 lb/MMBtu
Accuracy	2.40 %
Limit	< 10 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide shall not exceed 0.1 pound/MMBtu on a 30-day rolling average.

Monitor Manufacturer and Model No.: ABB Limas11(NOx), Magnos27 (O₂)

Process Unit(s) Description: Boiler B-6 (EPN 3-00, EQT 0048)

CEM Sampling Location: Boiler B-6

CEM Span Value: Nitrogen Oxide 100 ppm, Oxygen 25 %

I. ACCURACY ASSESSMENT RESULTS (RATA):

NO _x lb/MMBtu	
Date of Audit	4/26/17
Reference Method	EPA Method 7E / EPA Method 3A
Average RM Value	0.0318 lb/MMBtu
Average CEM Value	0.0349 lb/MMBtu
Accuracy	1.61 %
Limit	< 10 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide shall not exceed 0.1 pound/MMBtu on a 30-day rolling average.

Monitor Manufacturer and Model No.: Thermo Environmental Model 42i (NO_x)/(O₂)

Process Unit(s) Description: Boiler TB-01 (EPN 1-06, EQT 0010)

CEM Sampling Location: Boiler TB-01

CEM Span Value: Nitrogen Oxide 500 ppm, Oxygen 25 %

I. ACCURACY ASSESSMENT RESULTS (RATA):

NO _x lb/MMBtu	
Date of Audit	4/24/17
Reference Method	EPA Method 7E / EPA Method 3A
Average RM Value	0.0430 lb/MMBtu
Average CEM Value	0.0435 lb/MMBtu
Accuracy	0.37 %
Limit	< 10 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **NO_x**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide corrected to 0% O₂ shall not exceed 40 ppm on a 30-day rolling average

Monitor Manufacturer and Model No.: Thermo Environmental Model 42i (NO_x)/(O₂)

Process Unit(s) Description: Benzene Recovery Unit Reboiler (EPN 1-09, EQT 0127)

CEM Sampling Location: Benzene Recovery Unit Reboiler

CEM Span Value: Nitrogen Oxide 100 ppm, Oxygen 25 %

I. ACCURACY ASSESSMENT RESULTS (RATA):

	NO _x	O ₂
Date of Audit	4/25/17	4/25/17
Reference Method	EPA Method 7E	EPA Method 3A
Average RM Value	24.06 ppmv	7.14 vol %
Average CEM Value	24.89 ppmv	7.63 vol %
Accuracy	1.20 %	7.25 %
Limit	< 10 %	< 10 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **NO_x**

Applicable NSPS Subpart: N/A (Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 36.a)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide corrected to 0% O₂ shall not exceed 40 ppm on a 30-day rolling average

Monitor Manufacturer and Model No.: Thermo Environmental Model 42i (NO_x)/(O₂)

Process Unit(s) Description: No.1 Crude Heater (EPN 12-72A, EQT 0022)

CEM Sampling Location: No.1 Crude Heater

CEM Span Value: Nitrogen Oxide 100 ppm, Oxygen 25 %

I. ACCURACY ASSESSMENT RESULTS (RATA):

	NO _x	O ₂
Date of Audit	4/26/17	4/26/17
Reference Method	EPA Method 7E	EPA Method 3A
Average RM Value	6.44 ppmv	5.82 vol %
Average CEM Value	6.38 ppmv	6.01 vol %
Accuracy	2.97 %	3.61 %
Limit	< 10 %	< 20 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 5100

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), North Flare Header

CEM Sampling Location: North Flare Stack, North Flare Header (Y-AT-801)

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S</u>
Date of Audit	4/27/17
Reference Method	EPA Method 11
Average RM Value (ppmv)	4.076 ppmv
Average CEM Value (ppmv)	6.763 ppmv
Accuracy	4.27 %
Limit	< 10 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 5100

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), Hydrocracker Flare Header

CEM Sampling Location: North Flare Stack, Hydrocracker Flare Header (Y-AT-800)

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S</u>
Date of Audit	4/27/17
Reference Method	EPA Method 11
Average RM Value (ppmv)	0.570 ppmv
Average CEM Value (ppmv)	5.958 ppmv
Accuracy	4.29 %
Limit	< 10 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 162 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek 5100

Process Unit(s) Description: South Flare Stack (EPN 3-77, EQT 0049)

CEM Sampling Location: South Flare Stack (Y-AT-802)

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S</u>
Date of Audit	4/27/17
Reference Method	EPA Method 11
Average RM Value (ppmv)	0.744 ppmv
Average CEM Value (ppmv)	0.742 ppmv
Accuracy	0.32 %
Limit	< 10 %

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **Total Sulfur**

Applicable NSPS Subpart: Ja (Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), North Flare Header

CEM Sampling Location: North Flare Stack, North Flare Header (Y-AT-303)

CEM Span Value: Total Sulfur, Dual Range: 0-10,000 ppm, 10,000-1,000,000 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S #1</u>	<u>H₂S #2</u>
Date of Audit	4/27/17	4/27/17
Reference Method	EPA Method 11 (Alternate RATA)	EPA Method 11 (Alternate RATA)
Average RM Value (ppmv)	1013.00	9997.00 ¹
Average CEM Value (ppmv)	1013.73	9769.66
Accuracy	0.70 %	2.27 %
Limit	< 15 %	< 15 %

¹ Valero unable to obtain EPA Protocol 1 certified gases greater than 1000 ppm.

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **Total Sulfur**

Applicable NSPS Subpart: Ja (Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Process Unit(s) Description: North Flare Stack (EPN 20-72, EQT 0035), Hydrocracker Flare Header

CEM Sampling Location: North Flare Stack, Hydrocracker Flare Header (Y-AT-302)

CEM Span Value: Total Sulfur, Dual Range: 0-10,000 ppm, 10,000-1,000,000 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S #1</u>	<u>H₂S #2</u>
Date of Audit	4/27/17	4/27/17
Reference Method	EPA Method 11 (Alternate RATA)	EPA Method 11 (Alternate RATA)
Average RM Value (ppmv)	1013.00	9997.00 ¹
Average CEM Value (ppmv)	983.77	9836.67
Accuracy	2.89 %	1.60 %
Limit	< 15 %	< 15 %

¹ Valero unable to obtain EPA Protocol 1 certified gases greater than 1000 ppm.

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

DATA ASSESSMENT REPORT

(per 40 CFR 60, Appendix F, Section 7)

Pollutant: **Total Sulfur**

Applicable NSPS Subpart: Ja (Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 49.a.ii)

Reporting period dates: From 4/1/17 to 6/30/17

Date submitted: 7/28/17

Company: Valero Refining - Meraux LLC

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Process Unit(s) Description: South Flare Stack (EPN 3-77, EQT 0049)

CEM Sampling Location: South Flare Stack (Y-AT-304)

CEM Span Value: Total Sulfur, Dual Range: 0-10,000 ppm, 10,000-1,000,000 ppm

I. ACCURACY ASSESSMENT RESULTS (RATA):

	<u>H₂S #1</u>	<u>H₂S #2</u>
Date of Audit	4/27/17	4/27/17
Reference Method	EPA Method 11 (Alternate RATA)	EPA Method 11 (Alternate RATA)
Average RM Value (ppmv)	1013.00	9997.00 ¹
Average CEM Value (ppmv)	1019.51	9995.70
Accuracy	0.64 %	0.01 %
Limit	< 15 %	< 15 %

¹ Valero unable to obtain EPA Protocol 1 certified gases greater than 1000 ppm.

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: N/A

2. Number of Days N/A

B. Corrective Actions: N/A

Appendix A

Ja Root Cause and Corrective Action Analysis

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: **174622 / 174623**

The information contained below satisfies the requirements of the NSPS Subpart Ja 60.108a(c)(6).

Report:	<u>Final</u>	
Refinery:	<u>Valero (Meraux)</u>	
Incident Type:	<u>Flaring (Flow and SO2), #3 SRU (SO2)</u>	Date of Event: <u>10/23/16</u>
Emissions Source(s):	<u>North Flare (EPN 20-72, EQT 0035)</u> <u>#3 SRU Incinerator (EPN 5-00, EQT 0079)</u>	Date Analysis Completed: <u>11/16/16</u>

(1.) (60.108a(c)(6)(i))

A description of the Discharge:

At approximately 04:20 on 10/23/16, the Flare Gas Recovery (FGR) compressor tripped on high oil injection temperature which resulted in flaring for approximately 24 minutes. Later that day, at approximately 13:27, Valero was attempting to start up the Hydrocracker (HC) Recycle Gas Scrubber when a shutdown of the Lean Amine Pumps resulted in the rapid loss of level in the Hydrocracker Recycle Gas Scrubber. This allowed high pressure gases from the HC Recycle Gas Scrubber to enter the Rich Amine Flash Drum causing the PSV to lift to the flare, exceeding 500,000 SCF/24 hours and 500 lbs SO2/24 hours at the North Flare. Still later that day at approximately 14:20, while Valero was making the 2nd attempt at starting up the HC Recycle Gas Scrubber, the #3 Sulfur Recovery Unit (SRU) tripped on low air flow, which resulted in SO2 emissions greater than 500 lbs/24 hours above the allowable emissions from the #3 SRU Incinerator.

(2.) (60.108a(c)(6)(ii) and (60.108a(c)(6)(ix))

	<u>North Flare</u>	<u>#3 SRU</u>
Date and Time the discharge was first identified	<u>10/23/16 4:22</u>	<u>10/23/16 14:23</u>
Date/Time the discharge had ceased	<u>10/23/16 14:44</u>	<u>10/24/16 9:36</u>
Duration of Discharge (Calculated)	<u>10.4</u>	<u>19.2</u> hrs

(3.) (60.108a(c)(6)(viii))

The steps taken to limit the emissions during the discharge:

Valero initiated its refinery sulfur shedding procedure and followed its Flare Minimization Plan and Operations Procedures to minimize the volume of this discharge. Once Valero identified the Rich Amine Flash Drum as the source of the flare SO2 emissions, the Drum was manually isolated.

(4.) (60.108a(c)(6)(xi))

Necessity of RC/CAA: Determine and state whether a RC/CAA is necessary:

Note: If the discharge was a result of a planned startup or shutdown, a RC/CAA analysis is not required if the flare management plan was followed.

Did the discharge result from a planned startup or shutdown?	<u>No</u>	(Yes/No)
Was the flare management plan followed?	<u>Yes</u>	(Yes/No/N/A)
Is the event exempt from a RC/CCA based on the answers above?	<u>No</u>	(Yes/No)

- If yes, skip section 5-7.

(5.) (60.108a(c)(6)(ix))

Root Cause Analysis: Describe in detail the Root Cause(s) of the Incident, to the extent determinable:

Did this discharge result from root causes identified in a previous analysis? No (Yes/No)

- 1) FGR Compressor Trip - The Alarm Properties window for the FGR Compressor Outlet LO Temperature Alarm recommended that the Injection Oil Cooler fan be stopped. This recommended action was incorrect and resulted in the FGR Compressor tripping on HI Injection Oil temperature.
- 2) Hydrocracker Rich Amine Flash Drum PSV - The primary level control valve for the HC Recycle Gas Scrubber (HC-LV018A) was being operated in tandem with a manual block valve because it was known that HC-LV018A did not fully close. The manual block valve was not closed quickly enough to prevent emptying the HC Recycle Gas Scrubber. The other level control valve, HC-LV018B, was available and should have been used.
- 3) #3 SRU Trip - The DCS console operator inputted an incorrect setpoint value for the #3 SRU Main Burner air flow.

Contributing Factors:

- 1) Level indication on the #2 Amine Rich Amine Flash Drum failed to indicate that the level had fallen below 40%.

(6.)

(60.108a(c)(6)(ix))

Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is not Is corrective action required? Yes (Yes/No)

- 1) *Correct the recommended action for an FGR Compressor Outlet Temperature LO Alarm.*
- 2) *Repair the level indication on the #2 Amine Rich Amine Flash Drum.*
- 3) *Repair HC-LV018A so that it fully closes.*
- 4) *Incorporate specific guidelines for HC Recycle Gas Scrubber system start-up into existing HC Start-Up procedure. Include positive verification of HC-LV018A or B line up in procedure.*
- 5) *Implement setpoint limits or rate of changes limits for the #3 SRU Main Bruner Air Flow.*

(7.)

(60.108a(c)(6)(x))

Corrective Action Schedule: Include corrective actions already completed within the first 45 days following the discharge. For those not completed, provide a schedule for implementation, including proposed commencement and completion dates.

- 1) *Correct the recommended action for an FGR Compressor Outlet Temperature LO Alarm.*
Commencement Date: 11/16/16
Completed: 12/15/16
- 2) *Repair the level indication on the #2 Amine Rich Amine Flash Drum.*
Commencement Date: 11/16/16
Completed: 11/16/16
- 3) *Repair HC-LV018A so that it fully closes.*
Commencement Date: 11/16/16
Completed: 12/20/16
- 4) *Incorporate specific guidelines for HC Recycle Gas Scrubber system start-up into existing HC Start-Up procedure. Include positive verification of HC-LV018A or B line up in procedure.*
Commencement Date: 11/16/16
Completed: 6/28/17
- 5) *Implement setpoint limits or rate of changes limits for the #3 SRU Main Burner Air Flow.*
Commencement Date: 11/16/16
Completed: 3/30/17

(8.) North Flare

The measured or calculated cumulative quantity of gas discharged over the discharge duration.

Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	Last hour of 24-hr Period	24-hr cumulative volume of flared gas above Baseline	TRS or H2S ppm (24-hr average, flow-weighted)	24-hr cumulative SO2	24-hr cumulative reduced sulfur
		SCF	ppmv	lbs	lbs as H2S
10/22/2016 4:00	10/23/2016 3:00	198	2	0	0
10/22/2016 5:00	10/23/2016 4:00	63,994	1502	378.3	2.0
10/22/2016 6:00	10/23/2016 5:00	72,058	1503	378.3	2.0
10/22/2016 7:00	10/23/2016 6:00	92,004	1503	378.4	2.0
10/22/2016 8:00	10/23/2016 7:00	128,978	1512	379.6	2.0
10/22/2016 9:00	10/23/2016 8:00	156,193	1518	380.3	2.0
10/22/2016 10:00	10/23/2016 9:00	183,897	1518	380.3	2.0
10/22/2016 11:00	10/23/2016 10:00	213,479	1518	380.3	2.0
10/22/2016 12:00	10/23/2016 11:00	244,978	1518	380.3	2.0
10/22/2016 13:00	10/23/2016 12:00	247,030	1522	380.4	2.0
10/22/2016 14:00	10/23/2016 13:00	366,559	2011	611.4	3.3
10/22/2016 15:00	10/23/2016 14:00	414,066	2238	654.2	3.5
10/22/2016 16:00	10/23/2016 15:00	439,664	2238	654.2	3.5
10/22/2016 17:00	10/23/2016 16:00	461,597	2239	654.2	3.5
10/22/2016 18:00	10/23/2016 17:00	461,608	2239	654.2	3.5
10/22/2016 19:00	10/23/2016 18:00	461,608	2239	654.2	3.5
10/22/2016 20:00	10/23/2016 19:00	461,608	2239	654.2	3.5
10/22/2016 21:00	10/23/2016 20:00	461,608	2239	654.2	3.5
10/22/2016 22:00	10/23/2016 21:00	461,608	2239	654.2	3.5
10/22/2016 23:00	10/23/2016 22:00	461,608	2239	654.2	3.5
10/23/2016 0:00	10/23/2016 23:00	461,608	2239	654.2	3.5
10/23/2016 1:00	10/24/2016 0:00	462,286	2283	654.3	3.5
10/23/2016 2:00	10/24/2016 1:00	462,286	2283	654.3	3.5
10/23/2016 3:00	10/24/2016 2:00	462,286	2283	654.3	3.5
10/23/2016 4:00	10/24/2016 3:00	595,167	2300	664.2	3.6
10/23/2016 5:00	10/24/2016 4:00	561,475	812	287.4	1.5
10/23/2016 6:00	10/24/2016 5:00	553,411	811	287.4	1.5
10/23/2016 7:00	10/24/2016 6:00	533,465	811	287.4	1.5
10/23/2016 8:00	10/24/2016 7:00	496,491	802	286.1	1.5

(9.) #3 SRU

The measured or calculated cumulative quantity of gas discharged over the discharge duration.

Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(vi))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	Last hour of 24-hr Period	24-hr cumulative volume	SO ₂ ppm (24-hr average, flow-weighted) ¹	24-hr cumulative SO ₂ ²	24-hr cumulative reduced sulfur
		SCF	ppmv	lbs	lbs as H ₂ S
10/22/2016 14:00	10/23/2016 13:00	13,905,058	74	189.0	1.0
10/22/2016 15:00	10/23/2016 14:00	14,318,017	107	288.4	1.6
10/22/2016 16:00	10/23/2016 15:00	13,866,363	150	299.3	1.6
10/22/2016 17:00	10/23/2016 16:00	13,299,990	196	298.8	1.6
10/22/2016 18:00	10/23/2016 17:00	12,774,555	242	298.4	1.6
10/22/2016 19:00	10/23/2016 18:00	12,374,545	246	306.7	1.6
10/22/2016 20:00	10/23/2016 19:00	12,352,716	251	316.0	1.7
10/22/2016 21:00	10/23/2016 20:00	12,217,019	254	319.3	1.7
10/22/2016 22:00	10/23/2016 21:00	12,052,873	255	320.5	1.7
10/22/2016 23:00	10/23/2016 22:00	11,937,688	252	314.9	1.7
10/23/2016 0:00	10/23/2016 23:00	11,984,126	247	302.3	1.6
10/23/2016 1:00	10/24/2016 0:00	12,286,388	274	404.3	2.2
10/23/2016 2:00	10/24/2016 1:00	12,758,113	279	426.7	2.3
10/23/2016 3:00	10/24/2016 2:00	13,307,302	284	449.0	2.4
10/23/2016 4:00	10/24/2016 3:00	14,009,686	287	467.5	2.5
10/23/2016 5:00	10/24/2016 4:00	14,612,868	289	475.0	2.6
10/23/2016 6:00	10/24/2016 5:00	15,231,764	290	481.4	2.6
10/23/2016 7:00	10/24/2016 6:00	15,777,042	294	499.2	2.7
10/23/2016 8:00	10/24/2016 7:00	16,432,201	339	713.7	3.8
10/23/2016 9:00	10/24/2016 8:00	17,016,939	354	776.0	4.2
10/23/2016 10:00	10/24/2016 9:00	17,693,776	360	806.7	4.3
10/23/2016 11:00	10/24/2016 10:00	18,263,072	361	815.5	4.4
10/23/2016 12:00	10/24/2016 11:00	18,856,758	363	823.2	4.4
10/23/2016 13:00	10/24/2016 12:00	19,458,013	364	830.6	4.5
10/23/2016 14:00	10/24/2016 13:00	20,115,328	365	837.9	4.5
10/23/2016 15:00	10/24/2016 14:00	20,495,780	333	747.3	4.0
10/23/2016 16:00	10/24/2016 15:00	21,571,757	291	746.0	4.0
10/23/2016 17:00	10/24/2016 16:00	22,649,507	246	752.6	4.0
10/23/2016 18:00	10/24/2016 17:00	23,684,057	201	758.9	4.1
10/23/2016 19:00	10/24/2016 18:00	24,606,305	199	756.8	4.1
10/23/2016 20:00	10/24/2016 19:00	25,155,622	195	753.6	4.1
10/23/2016 21:00	10/24/2016 20:00	25,756,251	193	755.4	4.1
10/23/2016 22:00	10/24/2016 21:00	26,396,826	193	760.1	4.1
10/23/2016 23:00	10/24/2016 22:00	26,898,548	193	763.1	4.1
10/24/2016 0:00	10/24/2016 23:00	26,986,866	160	664.9	3.6
10/24/2016 1:00	10/25/2016 0:00	26,953,052	131	561.2	3.0
10/24/2016 2:00	10/25/2016 1:00	26,818,877	126	540.3	2.9

¹ SRU SO₂ CEMS are spanned to 500 ppm. For emissions calculations, Valero assumes 2 times the span, 1000 ppm, for CEMS readings >= 500 ppm.

² Tail Gas Treater bypass emissions are calculated using a mass balance method, not using the flow and concentration values listed here.

Subpart Ja Root Cause / Corrective Action AnalysisImpact Incident Number: **176002***The information contained below satisfies the requirements of the NSPS Subpart Ja 60.108a(c)(6).*

Report:	<u>Update</u>	
Refinery:	<u>Valero (Meraux)</u>	
Incident Type:	<u>Flaring (Flow and SO2)</u>	Date of Event: <u>11/29/16</u>
Emissions Source(s):	<u>North Flare (EPN 20-72, EQT 0035)</u>	Date Analysis Completed: <u>1/5/17</u>

(1.) (60.108a(c)(6)(i))

A description of the Discharge:

On 11/29/16 at approximately 14:00, a leak developed in the Hydrocracker Unit (HC) on the Stripper Feed Exchanger (HC-E-003). This leak caused the high pressure of the intermediate separator vapor circuit to dump into the lower pressure stripper system. The resulting high pressure in the stripper system caused all PSVs in this circuit (Stripper, Stripper Off-gas Scrubber and Rich Amine Flash Drum) to relieve to the flare. This flaring exceeded 500,000 SCF/24 hours and 500 lbs of SO2/24 hours. Valero quickly initiated a HC shutdown and additional flaring continued until 12/1/16 at 17:00.

(2.) (60.108a(c)(6)(ii) and (60.108a(c)(6)(ix))

Date and Time the discharge was first identified	<u>11/29/16 14:07</u>
Date/Time the discharge had ceased	<u>12/1/16 17:00</u>
Duration of Discharge (Calculated)	<u>50.9</u> hrs

(3.) (60.108a(c)(6)(viii))

The steps taken to limit the emissions during the discharge:

Valero followed its Flare Minimization Plan and Operations Procedures to minimize the volume of this discharge.

(4.) (60.108a(c)(6)(xi))

Necessity of RC/CAA: Determine and state whether a RC/CAA is necessary:

Note: If the discharge was a result of a planned startup or shutdown, a RC/CAA analysis is not required if the flare management plan was followed.

Did the discharge result from a planned startup or shutdown?	<u>No</u>	(Yes/No)
Was the flare management plan followed?	<u>Yes</u>	(Yes/No/N/A)
Is the event exempt from a RC/CCA based on the answers above?	<u>No</u>	(Yes/No)

- If yes, skip section 5-7.

(5.) (60.108a(c)(6)(ix))

Root Cause Analysis: Describe in detail the Root Cause(s) of the Incident, to the extent determinable:

Did this discharge result from root causes identified in a previous analysis? No (Yes/No)

Inspection of the heat exchanger revealed rapid Chloride corrosion on the outside diameter of the tubes, concentrated between the last two baffles. This was the result of the presence of Ammonium chloride and water in the shell side (stripper feed) of the exchanger. Though some chlorides are expected in this stream, water is not. Water carryover into this exchanger is likely the result of poor oil/water separation in the Cold Flash Drum due to the following possibilities:

- 1) An undersized water boot.
- 2) Increased wash water rate post HC revamp (wash water rate increased approximately 50%).
- 3) Fouled mesh blanket.

(6.)

(60.108a(c)(6)(ix))

Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is Is corrective action required? Yes (Yes/No)

- 1) *Determine a maximum Ammonium Bisulfide concentration to set the minimum wash water injection rate upstream of HC-E-004 to reduce likelihood of water carryover in stripper feed stream, and determine adjusted corrosion rates.*
- 2) *Review design of the Cold Flash Drum and generate MOCs and EWRs as needed to correct any deficiencies.*
- 3) *Generate MOC or EWR to replace or upgrade mesh blanket in Cold Flash Drum.*
- 4) *Order new HC-E-003 bundle for 2018. Evaluate possible metallurgy upgrade.*
- 5) *Find an alternate location for the Flash Gas Scrubber KO Drum (HC-V-065) liquid and generate an EWR to reroute it.*

(7.)

(60.108a(c)(6)(x))

Corrective Action Schedule: Include corrective actions already completed within the first 45 days following the discharge. For those not completed, provide a schedule for implementation, including proposed commencement and completion dates.

- 1) *Determine a maximum Ammonium Bisulfide concentration to set the minimum wash water injection rate upstream of HC-E-004 to reduce likelihood of water carryover in stripper feed stream, and determine adjusted corrosion rates.*

Commencement Date: 1/5/17

Completed: 3/24/17

- 2) *Review design of the Cold Flash Drum and generate MOCs and EWRs as needed to correct any deficiencies.*

Commencement Date: 1/5/17

Completed: 6/26/17

- 3) *Generate MOC or EWR to replace or upgrade mesh blanket in Cold Flash Drum.*

Commencement Date: 1/5/17

Completed Date: 3/28/17

- 4) *Order new HC-E-003 bundle for 2018. Evaluate possible metallurgy upgrade.*

Commencement Date: 1/5/17

Estimated Completion Date: 1/1/18

- 5) *Find an alternate location for the Flash Gas Scrubber KO Drum (HC-V-065) liquid and generate an EWR to reroute it.*

Commencement Date: 1/5/17

Estimated Completion Date: 5/18/18

(8.)

The measured or calculated cumulative quantity of gas discharged over the discharge duration.

Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	Last hour of 24-hr Period	24-hr cumulative volume of flared gas above Baseline	TRS or H2S ppm (24-hr average, flow-weighted)	24-hr cumulative SO2	24-hr cumulative reduced sulfur
		SCF	ppmv	lbs	lbs as H2S
11/28/2016 14:00	11/29/2016 13:00	442,131	37895	53.9	0.3
11/28/2016 15:00	11/29/2016 14:00	1,747,430	38574	3555.9	19.1
11/28/2016 16:00	11/29/2016 15:00	3,384,372	39341	8518.0	45.8
11/28/2016 17:00	11/29/2016 16:00	4,864,786	39651	10331.7	55.5
11/28/2016 18:00	11/29/2016 17:00	6,137,194	39757	10868.4	58.4
11/28/2016 19:00	11/29/2016 18:00	6,621,544	39846	11038.1	59.3
11/28/2016 20:00	11/29/2016 19:00	6,637,905	39920	11042.9	59.3
11/28/2016 21:00	11/29/2016 20:00	6,665,046	39934	11044.4	59.3
11/28/2016 22:00	11/29/2016 21:00	6,687,899	39941	11045.1	59.4
11/28/2016 23:00	11/29/2016 22:00	6,721,724	39952	11046.5	59.4
11/29/2016 0:00	11/29/2016 23:00	6,866,231	39961	11051.3	59.4
11/29/2016 1:00	11/30/2016 0:00	6,964,842	39962	11052.0	59.4
11/29/2016 2:00	11/30/2016 1:00	7,042,602	39973	11055.3	59.4
11/29/2016 3:00	11/30/2016 2:00	7,137,068	39977	11056.7	59.4
11/29/2016 4:00	11/30/2016 3:00	7,223,966	39979	11057.3	59.4
11/29/2016 5:00	11/30/2016 4:00	7,246,471	39795	11030.9	59.3
11/29/2016 6:00	11/30/2016 5:00	7,219,344	39781	11027.1	59.3
11/29/2016 7:00	11/30/2016 6:00	7,249,132	39770	11025.9	59.2
11/29/2016 8:00	11/30/2016 7:00	7,594,364	39758	11025.0	59.2
11/29/2016 9:00	11/30/2016 8:00	7,906,155	39853	11182.7	60.1
11/29/2016 10:00	11/30/2016 9:00	8,111,141	40001	11373.4	61.1
11/29/2016 11:00	11/30/2016 10:00	8,402,137	39654	11477.9	61.7
11/29/2016 12:00	11/30/2016 11:00	8,767,134	2739	11598.5	62.3
11/29/2016 13:00	11/30/2016 12:00	9,129,514	2713	11674.3	62.7
11/29/2016 14:00	11/30/2016 13:00	9,443,967	2641	11711.4	62.9
11/29/2016 15:00	11/30/2016 14:00	8,453,648	1973	8222.9	44.2
11/29/2016 16:00	11/30/2016 15:00	7,244,608	1211	3269.3	17.6
11/29/2016 17:00	11/30/2016 16:00	6,028,272	904	1458.6	7.8
11/29/2016 18:00	11/30/2016 17:00	4,778,453	802	922.3	5.0
11/29/2016 19:00	11/30/2016 18:00	4,403,343	743	765.2	4.1
11/29/2016 20:00	11/30/2016 19:00	4,638,495	728	819.7	4.4
11/29/2016 21:00	11/30/2016 20:00	4,684,620	760	831.6	4.5
11/29/2016 22:00	11/30/2016 21:00	4,700,482	800	838.1	4.5
11/29/2016 23:00	11/30/2016 22:00	4,694,191	819	839.9	4.5
11/30/2016 0:00	11/30/2016 23:00	4,572,301	835	837.3	4.5
11/30/2016 1:00	12/1/2016 0:00	4,490,705	840	837.0	4.5
11/30/2016 2:00	12/1/2016 1:00	4,451,088	839	835.3	4.5
11/30/2016 3:00	12/1/2016 2:00	4,400,707	847	836.0	4.5
11/30/2016 4:00	12/1/2016 3:00	4,371,611	856	837.8	4.5
11/30/2016 5:00	12/1/2016 4:00	4,332,023	873	838.9	4.5
11/30/2016 6:00	12/1/2016 5:00	4,308,423	884	839.3	4.5
11/30/2016 7:00	12/1/2016 6:00	4,257,383	900	839.9	4.5
11/30/2016 8:00	12/1/2016 7:00	3,801,902	903	830.2	4.5
11/30/2016 9:00	12/1/2016 8:00	3,592,594	785	674.1	3.6
11/30/2016 10:00	12/1/2016 9:00	3,359,769	631	480.1	2.6
11/30/2016 11:00	12/1/2016 10:00	3,096,404	551	376.7	2.0
11/30/2016 12:00	12/1/2016 11:00	2,765,661	483	258.1	1.4
11/30/2016 13:00	12/1/2016 12:00	2,436,801	442	183.9	1.0
11/30/2016 14:00	12/1/2016 13:00	2,154,612	421	147.8	0.8
11/30/2016 15:00	12/1/2016 14:00	1,871,867	428	136.5	0.7
11/30/2016 16:00	12/1/2016 15:00	1,473,125	429	128.5	0.7

(8.)

The measured or calculated cumulative quantity of gas discharged over the discharge duration.

Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	Last hour of 24-hr Period	24-hr cumulative volume of flared gas above Baseline	TRS or H2S ppm (24-hr average, flow-weighted)	24-hr cumulative SO2	24-hr cumulative reduced sulfur
		SCF	ppmv	lbs	lbs as H2S
11/30/2016 17:00	12/1/2016 16:00	1,238,898	474	131.4	0.7
11/30/2016 18:00	12/1/2016 17:00	1,216,310	469	130.9	0.7
11/30/2016 19:00	12/1/2016 18:00	1,107,070	440	118.3	0.6
11/30/2016 20:00	12/1/2016 19:00	855,557	380	58.9	0.3
11/30/2016 21:00	12/1/2016 20:00	782,290	334	45.6	0.2
11/30/2016 22:00	12/1/2016 21:00	743,575	287	38.4	0.2
11/30/2016 23:00	12/1/2016 22:00	716,041	257	35.2	0.2
12/1/2016 0:00	12/1/2016 23:00	693,425	233	33.0	0.2
12/1/2016 1:00	12/2/2016 0:00	676,409	227	32.6	0.2
12/1/2016 2:00	12/2/2016 1:00	638,266	216	31.0	0.2
12/1/2016 3:00	12/2/2016 2:00	594,181	205	29.0	0.2
12/1/2016 4:00	12/2/2016 3:00	536,379	194	26.5	0.1
12/1/2016 5:00	12/2/2016 4:00	517,036	176	25.1	0.1
12/1/2016 6:00	12/2/2016 5:00	502,803	164	24.4	0.1
12/1/2016 7:00	12/2/2016 6:00	478,861	143	22.4	0.1

Subpart Ja Root Cause / Corrective Action AnalysisImpact Incident Number: **178573***The information contained below satisfies the requirements of the NSPS Subpart Ja 60.108a(c)(6).*

Report:	<u>Update</u>	
Refinery:	<u>Valero (Meraux)</u>	
Incident Type:	<u>Flaring (Flow and SO2)</u>	Date of Event: <u>2/8/17</u>
Emissions Source(s):	<u>North Flare (EPN 20-72, EQT 0035)</u>	Date Analysis Completed: <u>3/16/17</u>

(1.) (60.108a(c)(6)(i))

A description of the Discharge:

On 2/8/17 at approximately 07:15, a vent line branching from the 1st stage suction line of the "B" Hydrocracker/Hydrotreater Make Up Gas (MUG) compressor failed and resulted in a fire. The event triggered an emergency safety shutdown and the unit was depressurized to the North Flare. This flaring exceeded 500,000 SCF/24 hours and 500 lbs of SO2/24 hours.

(2.) (60.108a(c)(6)(ii) and (60.108a(c)(6)(ix))

Date and Time the discharge was first identified	<u>2/8/17 7:18</u>
Date/Time the discharge had ceased	<u>2/8/17 8:30</u>
Duration of Discharge (Calculated)	<u>1.2</u> hrs

(3.) (60.108a(c)(6)(viii))

The steps taken to limit the emissions during the discharge:

Valero followed its Flare Minimization Plan and Operations Procedures to minimize the volume of this discharge.

(4.) (60.108a(c)(6)(xi))

Necessity of RC/CAA: Determine and state whether a RC/CAA is necessary:

Note: If the discharge was a result of a planned startup or shutdown, a RC/CAA analysis is not required if the flare management plan was followed.

Did the discharge result from a planned startup or shutdown?	<u>No</u>	(Yes/No)
Was the flare management plan followed?	<u>Yes</u>	(Yes/No/N/A)
Is the event exempt from a RC/CCA based on the answers above?	<u>No</u>	(Yes/No)

- If yes, skip section 5-7.

(5.) (60.108a(c)(6)(ix))

Root Cause Analysis: Describe in detail the Root Cause(s) of the Incident, to the extent determinable:

Did this discharge result from root causes identified in a previous analysis? No (Yes/No)

Vibration induced fatigue failure occurring directly above the gussets of the ¾" branch connection. Third party analysis was conducted on this connection and vibration was determined to be a concern. The following design factors likely contributed to this failure:

- Branch connection was inadequately reinforced.
- Branch connection was too long (extended upward from header approximately 18-24 inches).
- Presence of un-necessary vent piping added mass to vibration system and likely amplified stress at failure point.
- Heavy components (valves) located at top of extended branch connection as opposed to being lower towards the header.

(6.)

(60.108a(c)(6)(ix))

Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is Is corrective action required? Yes (Yes/No)

1) *Conduct vibration analysis on all small bore connections near the MUG compressors to determine if vibration induced fatigue failure is still a concern after alterations.*

2) *Complete the removal of the vent line piping. (Most of the vent line piping was removed shortly after the incident, however some could not be isolated due to suspected leakage of the block valves.)*

3) *Provide recommendation for suspected leaking block valve replacement in 2018 turnaround.*

(7.)

(60.108a(c)(6)(x))

Corrective Action Schedule: Include corrective actions already completed within the first 45 days following the discharge. For those not completed, provide a schedule for implementation, including proposed commencement and completion dates.

1) *Conduct vibration analysis on all small bore connections near the MUG compressors to determine if vibration induced fatigue failure is still a concern after alterations.*

Commencement Date: 3/16/17

Completed: 5/19/17

2) *Complete the removal of the vent line piping.*

Commencement Date: 3/16/17

Estimated Completion Date: 12/31/18

3) *Provide recommendation for suspected leaking block valve replacement in 2018 turnaround.*

Commencement Date: 3/16/17

Estimated Completion Date: 9/1/17

(8.)

The measured or calculated cumulative quantity of gas discharged over the discharge duration.

Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	Last hour of 24-hr Period	24-hr cumulative volume of flared gas above Baseline	TRS or H2S ppm (24-hr average, flow-weighted)	24-hr cumulative SO2	24-hr cumulative reduced sulfur
		SCF	ppmv	lbs	lbs as H2S
2/7/2017 7:00	2/8/2017 6:00	0	0	0.0	0.0
2/7/2017 8:00	2/8/2017 7:00	1,067,647	662	2792.3	15.0
2/7/2017 9:00	2/8/2017 8:00	1,287,083	1427	3456.4	18.6
2/7/2017 10:00	2/8/2017 9:00	1,288,025	2083	3458.8	18.6
2/7/2017 11:00	2/8/2017 10:00	1,288,062	2380	3458.9	18.6
2/7/2017 12:00	2/8/2017 11:00	1,288,062	2380	3458.9	18.6
2/7/2017 13:00	2/8/2017 12:00	1,288,062	2380	3458.9	18.6
2/7/2017 14:00	2/8/2017 13:00	1,288,062	2380	3458.9	18.6
2/7/2017 15:00	2/8/2017 14:00	1,288,062	2380	3458.9	18.6
2/7/2017 16:00	2/8/2017 15:00	1,288,062	2380	3458.9	18.6
2/7/2017 17:00	2/8/2017 16:00	1,288,062	2380	3458.9	18.6
2/7/2017 18:00	2/8/2017 17:00	1,288,062	2380	3458.9	18.6
2/7/2017 19:00	2/8/2017 18:00	1,288,062	2380	3458.9	18.6
2/7/2017 20:00	2/8/2017 19:00	1,288,062	2380	3458.9	18.6
2/7/2017 21:00	2/8/2017 20:00	1,288,062	2380	3458.9	18.6
2/7/2017 22:00	2/8/2017 21:00	1,288,062	2380	3458.9	18.6
2/7/2017 23:00	2/8/2017 22:00	1,288,062	2380	3458.9	18.6
2/8/2017 0:00	2/8/2017 23:00	1,288,062	2380	3458.9	18.6
2/8/2017 1:00	2/9/2017 0:00	1,288,062	2380	3458.9	18.6
2/8/2017 2:00	2/9/2017 1:00	1,288,062	2380	3458.9	18.6
2/8/2017 3:00	2/9/2017 2:00	1,288,410	2429	3458.9	18.6
2/8/2017 4:00	2/9/2017 3:00	1,289,898	3473	3465.1	18.6
2/8/2017 5:00	2/9/2017 4:00	1,289,898	3473	3465.1	18.6
2/8/2017 6:00	2/9/2017 5:00	1,289,898	3473	3465.1	18.6
2/8/2017 7:00	2/9/2017 6:00	1,289,898	3473	3465.1	18.6
2/8/2017 8:00	2/9/2017 7:00	222,252	2811	672.8	3.6
2/8/2017 9:00	2/9/2017 8:00	2,815	2045	8.7	0.0

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: **178790**

The information contained below satisfies the requirements of the NSPS Subpart Ja 60.108a(c)(6).

Report:	<u>Update</u>	
Refinery:	<u>Valero (Meraux)</u>	
Incident Type:	<u>Flaring (Flow and SO2)</u>	Date of Event: <u>2/13/17</u>
Emissions Source(s):	<u>North Flare (EPN 20-72, EQT 0035)</u>	Date Analysis Completed: <u>3/16/17</u>

(1.) (60.108a(c)(6)(i))

A description of the Discharge:

On 2/13/17 at approximately 22:58, all four refinery boilers and the #3 Sulfur Recovery Unit (SRU) shutdown due to low boiler feed water pressure. Valero had just began the process of inventorying three steam generators in the Reformer Unit. The resulting reduction in refinery steam header pressure caused the shutdown of the Hydrocracker/Hydrotreater, ROSE Unit, Kerosene Hydrotreater, Ultra Low Sulfur Diesel Hydrotreater, and reduced the Crude Unit to minimum rates. Flaring exceeded 500,000 SCF/24 hours and 500 lbs of SO₂/24 hours. Excess SO₂ emissions occurred at multiple heaters and boilers and both the #2 and #3 SRU, but were less than 500 lbs of SO₂/24 hours.

(2.) (60.108a(c)(6)(ii) and (60.108a(c)(6)(ix))

Date and Time the discharge was first identified	<u>2/13/17 23:07</u>
Date/Time the discharge had ceased	<u>2/14/17 3:44</u>
Duration of Discharge (Calculated)	<u>4.6</u> hrs

(3.) (60.108a(c)(6)(viii))

The steps taken to limit the emissions during the discharge:

Valero followed its Flare Minimization Plan and Operations Procedures to minimize the volume of this discharge.

(4.) (60.108a(c)(6)(xi))

Necessity of RC/CAA: Determine and state whether a RC/CAA is necessary:

Note: If the discharge was a result of a planned startup or shutdown, a RC/CAA analysis is not required if the flare management plan was followed.

Did the discharge result from a planned startup or shutdown?	<u>No</u>	(Yes/No)
Was the flare management plan followed?	<u>Yes</u>	(Yes/No/N/A)
Is the event exempt from a RC/CCA based on the answers above?	<u>No</u>	(Yes/No)

- If yes, skip section 5-7.

(5.) (60.108a(c)(6)(ix))

Root Cause Analysis: Describe in detail the Root Cause(s) of the Incident, to the extent determinable:

Did this discharge result from root causes identified in a previous analysis? No (Yes/No)

Root Cause(s):

- 1) Turbine driven Boiler Feed Water (BFW) Pump in Area 4 North (B-P-022A) tripped off line and the spillback control valve remained open causing low BFW system pressure alarms. No corrective actions were taken to address the low BFW system pressure.
- 2) The Area 4 South Electric BFW Pump was unavailable to "auto" start upon low pressure event due to the starter placed in the "off" position.

Contributing Factor(s):

- 1) The significance of the lower BFW pressure was not recognized.
- 2) Inadequate communication - lack of information in shift logs; lack of information transferred between shift teams.
- 3) Inaccurate information entered in Intelatrac rounds; Intelatrac alert settings improperly set.
- 4) The BFW flow control valves to the Reformer Steam Generators leaked during initial inventory.

(6.)

(60.108a(c)(6)(ix))

Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is Is corrective action required? Yes (Yes/No)

- 1) *Modify the BFW Pumps (B-P-022A/B) spillback control valve control scheme to automatically close the spillback valves upon pump shutdown.*
- 2) *Review Intelatrac rounds for the Area 4 BFW system and revise as needed.*
- 3) *Conduct refresher training for all Area 4 Operators on BFW system and Intelatrac round changes.*
- 4) *Evaluate spillback protection for BFW Pumps and determine if any additional modifications are necessary.*
- 5) *Emphasize importance of electronic shift log and shift-to-shift communication.*

(7.)

(60.108a(c)(6)(x))

Corrective Action Schedule: Include corrective actions already completed within the first 45 days following the discharge. For those not completed, provide a schedule for implementation, including proposed commencement and completion dates.

- 1) *Modify the BFW Pumps (B-P-022A/B) spillback control valve control scheme to automatically close the spillback valves upon pump shutdown.*

Commencement Date: 3/16/17

Completed: 3/16/17

- 2) *Review Intelatrac rounds for the Area 4 BFW system and revise as needed.*

Commencement Date: 3/16/17

Completed: 6/5/17

- 3) *Conduct refresher training for all Area 4 Operators on BFW system and Intelatrac round changes.*

Commencement Date: 3/16/17

Estimated Completion Date: 7/25/17

- 4) *Evaluate spillback protection for BFW Pumps and determine if any additional modifications are necessary.*

Commencement Date: 3/16/17

Estimated Completion Date: 8/29/17

- 5) *Emphasize importance of electronic shift log and shift-to-shift communication.*

Commencement Date: 3/16/17

Completed: 5/31/17

Note: Due to a clerical error in putting these action items into Valero's action item tracking system, the estimated completion dates were extended.

(8.)

The measured or calculated cumulative quantity of gas discharged over the discharge duration.

Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	Last hour of 24-hr Period	24-hr cumulative volume of flared gas above Baseline	TRS or H2S ppm (24-hr average, flow-weighted)	24-hr cumulative SO2	24-hr cumulative reduced sulfur
		SCF	ppmv	lbs	lbs as H2S
2/12/2017 23:00	2/13/2017 22:00	148	170	0.1	0.0
2/13/2017 0:00	2/13/2017 23:00	2,114,167	361	1589.1	8.5
2/13/2017 1:00	2/14/2017 0:00	5,124,953	484	3062.3	16.5
2/13/2017 2:00	2/14/2017 1:00	7,872,740	585	4152.2	22.3
2/13/2017 3:00	2/14/2017 2:00	8,526,510	615	4231.4	22.7
2/13/2017 4:00	2/14/2017 3:00	8,555,025	685	4239.3	22.8
2/13/2017 5:00	2/14/2017 4:00	8,555,025	685	4239.3	22.8
2/13/2017 6:00	2/14/2017 5:00	8,555,025	685	4239.3	22.8
2/13/2017 7:00	2/14/2017 6:00	8,555,025	685	4239.3	22.8
2/13/2017 8:00	2/14/2017 7:00	8,555,025	685	4239.3	22.8
2/13/2017 9:00	2/14/2017 8:00	8,555,025	685	4239.3	22.8
2/13/2017 10:00	2/14/2017 9:00	8,555,025	685	4239.3	22.8
2/13/2017 11:00	2/14/2017 10:00	8,555,025	685	4239.3	22.8
2/13/2017 12:00	2/14/2017 11:00	8,555,025	685	4239.3	22.8
2/13/2017 13:00	2/14/2017 12:00	8,555,025	685	4239.3	22.8
2/13/2017 14:00	2/14/2017 13:00	8,555,025	685	4239.3	22.8
2/13/2017 15:00	2/14/2017 14:00	8,555,025	685	4239.3	22.8
2/13/2017 16:00	2/14/2017 15:00	8,555,025	685	4239.3	22.8
2/13/2017 17:00	2/14/2017 16:00	8,554,878	514	4239.2	22.8
2/13/2017 18:00	2/14/2017 17:00	8,555,259	579	4239.3	22.8
2/13/2017 19:00	2/14/2017 18:00	8,555,259	579	4239.3	22.8
2/13/2017 20:00	2/14/2017 19:00	8,555,259	579	4239.3	22.8
2/13/2017 21:00	2/14/2017 20:00	8,555,259	579	4239.3	22.8
2/13/2017 22:00	2/14/2017 21:00	8,570,760	664	4244.4	22.8
2/13/2017 23:00	2/14/2017 22:00	8,574,927	700	4245.0	22.8
2/14/2017 0:00	2/14/2017 23:00	6,460,908	510	2656.0	14.3
2/14/2017 1:00	2/15/2017 0:00	3,450,121	387	1182.8	6.4
2/14/2017 2:00	2/15/2017 1:00	702,334	286	92.9	0.5
2/14/2017 3:00	2/15/2017 2:00	48,565	256	13.7	0.1

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: N/A

The information contained below satisfies the requirements of the NSPS Subpart Ja 60.108a(c)(6).

Report: Final
Refinery: Valero (Meraux)
Incident Type: Flaring (Flow) Date of Event: 5/8/17
Emissions Source(s): North Flare (EPN 20-72, EQT 0035) Date Analysis Completed: N/A

(1.) (60.108a(c)(6)(i))

A description of the Discharge:
The Reformer Net Gas Chloride Treater was shutdown and purged with Nitrogen.

(2.) (60.108a(c)(6)(ii) and (60.108a(c)(6)(ix))

Date and Time the discharge was first identified 5/8/17 13:49
Date/Time the discharge had ceased 5/10/17 11:08
Duration of Discharge (Calculated) 45.3 hrs

(3.) (60.108a(c)(6)(viii))

The steps taken to limit the emissions during the discharge:
Valero followed its Flare Minimization Plan and Operations Procedures to minimize the volume of this discharge.

(4.) (60.108a(c)(6)(xi))

Necessity of RC/CAA: Determine and state whether a RC/CAA is necessary:
Note: If the discharge was a result of a planned startup or shutdown, a RC/CAA analysis is not required if the flare management plan was followed.

Did the discharge result from a planned startup or shutdown? Yes (Yes/No)
Was the flare management plan followed? Yes (Yes/No/N/A)
Is the event exempt from a RC/CCA based on the answers above? Yes (Yes/No)
- If yes, skip section 5-7.

(5.) (60.108a(c)(6)(ix))

Root Cause Analysis: Describe in detail the Root Cause(s) of the Incident, to the extent determinable:
Did this discharge result from root causes identified in a previous analysis? No (Yes/No)
N/A

(6.) (60.108a(c)(6)(ix))

Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is
Is corrective action required? No (Yes/No)
N/A

(7.) (60.108a(c)(6)(x))

Corrective Action Schedule: Include corrective actions already completed within the first 45 days following the discharge. For those not completed, provide a schedule for implementation, including proposed commencement and completion dates.
N/A

(8.)

The measured or calculated cumulative quantity of gas discharged over the discharge duration.

Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	Last hour of 24-hr Period	24-hr cumulative volume of flared gas above Baseline	TRS or H2S ppm (24-hr average, flow-weighted)	24-hr cumulative SO2	24-hr cumulative reduced sulfur
		SCF	ppmv	lbs	lbs as H2S
5/7/2017 13:00	5/8/2017 12:00	0	0	0.0	0.0
5/7/2017 14:00	5/8/2017 13:00	1,065	460	1.9	0.0
5/7/2017 15:00	5/8/2017 14:00	47,897	641	35.3	0.2
5/7/2017 16:00	5/8/2017 15:00	57,548	796	41.3	0.2
5/7/2017 17:00	5/8/2017 16:00	57,548	796	41.3	0.2
5/7/2017 18:00	5/8/2017 17:00	57,548	796	41.3	0.2
5/7/2017 19:00	5/8/2017 18:00	98,029	927	62.1	0.3
5/7/2017 20:00	5/8/2017 19:00	174,388	972	76.0	0.4
5/7/2017 21:00	5/8/2017 20:00	248,832	1017	89.1	0.5
5/7/2017 22:00	5/8/2017 21:00	314,007	1066	101.7	0.5
5/7/2017 23:00	5/8/2017 22:00	372,349	1124	115.0	0.6
5/8/2017 0:00	5/8/2017 23:00	430,980	1180	128.1	0.7
5/8/2017 1:00	5/9/2017 0:00	486,589	1238	140.8	0.8
5/8/2017 2:00	5/9/2017 1:00	532,786	1316	155.1	0.8
5/8/2017 3:00	5/9/2017 2:00	587,631	1376	168.2	0.9
5/8/2017 4:00	5/9/2017 3:00	640,034	1442	181.6	1.0
5/8/2017 5:00	5/9/2017 4:00	694,654	1504	195.1	1.0
5/8/2017 6:00	5/9/2017 5:00	750,832	1564	208.5	1.1
5/8/2017 7:00	5/9/2017 6:00	806,686	1625	222.0	1.2
5/8/2017 8:00	5/9/2017 7:00	874,908	1683	237.5	1.3
5/8/2017 9:00	5/9/2017 8:00	951,521	1735	253.4	1.4
5/8/2017 10:00	5/9/2017 9:00	1,029,224	1784	268.2	1.4
5/8/2017 11:00	5/9/2017 10:00	1,109,216	1830	282.9	1.5
5/8/2017 12:00	5/9/2017 11:00	1,190,575	1880	298.8	1.6
5/8/2017 13:00	5/9/2017 12:00	1,271,355	1927	314.1	1.7
5/8/2017 14:00	5/9/2017 13:00	1,350,135	1515	327.1	1.8
5/8/2017 15:00	5/9/2017 14:00	1,383,002	1382	308.7	1.7
5/8/2017 16:00	5/9/2017 15:00	1,453,354	1273	317.5	1.7
5/8/2017 17:00	5/9/2017 16:00	1,531,260	1319	331.6	1.8
5/8/2017 18:00	5/9/2017 17:00	1,602,983	1364	344.3	1.9
5/8/2017 19:00	5/9/2017 18:00	1,634,966	1280	337.0	1.8
5/8/2017 20:00	5/9/2017 19:00	1,638,407	1276	336.3	1.8
5/8/2017 21:00	5/9/2017 20:00	1,641,373	1273	335.8	1.8
5/8/2017 22:00	5/9/2017 21:00	1,656,403	1265	336.2	1.8
5/8/2017 23:00	5/9/2017 22:00	1,676,673	1248	335.6	1.8
5/9/2017 0:00	5/9/2017 23:00	1,696,583	1233	335.3	1.8
5/9/2017 1:00	5/10/2017 0:00	1,720,134	1217	335.6	1.8
5/9/2017 2:00	5/10/2017 1:00	1,752,650	1180	334.3	1.8
5/9/2017 3:00	5/10/2017 2:00	1,776,062	1162	334.4	1.8
5/9/2017 4:00	5/10/2017 3:00	1,800,902	1141	334.2	1.8
5/9/2017 5:00	5/10/2017 4:00	1,823,613	1121	333.9	1.8
5/9/2017 6:00	5/10/2017 5:00	1,844,355	1104	333.4	1.8
5/9/2017 7:00	5/10/2017 6:00	1,866,326	1086	333.4	1.8
5/9/2017 8:00	5/10/2017 7:00	1,876,476	1075	332.1	1.8
5/9/2017 9:00	5/10/2017 8:00	1,882,310	1067	330.8	1.8
5/9/2017 10:00	5/10/2017 9:00	1,886,964	1062	330.2	1.8
5/9/2017 11:00	5/10/2017 10:00	1,853,112	1074	326.2	1.8
5/9/2017 12:00	5/10/2017 11:00	1,772,990	1246	311.4	1.7
5/9/2017 13:00	5/10/2017 12:00	1,692,210	1199	296.1	1.6
5/9/2017 14:00	5/10/2017 13:00	1,612,365	1151	281.1	1.5
5/9/2017 15:00	5/10/2017 14:00	1,532,816	1169	266.3	1.4

(8.)

The measured or calculated cumulative quantity of gas discharged over the discharge duration.

Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	Last hour of 24-hr Period	24-hr cumulative volume of flared gas above Baseline	TRS or H2S ppm (24-hr average, flow-weighted)	24-hr cumulative SO2	24-hr cumulative reduced sulfur
		SCF	ppmv	lbs	lbs as H2S
5/9/2017 16:00	5/10/2017 15:00	1,452,814	1123	251.5	1.4
5/9/2017 17:00	5/10/2017 16:00	1,374,908	1077	237.4	1.3
5/9/2017 18:00	5/10/2017 17:00	1,303,185	1032	224.6	1.2
5/9/2017 19:00	5/10/2017 18:00	1,230,721	985	211.1	1.1
5/9/2017 20:00	5/10/2017 19:00	1,150,920	943	198.0	1.1
5/9/2017 21:00	5/10/2017 20:00	1,073,510	902	185.4	1.0
5/9/2017 22:00	5/10/2017 21:00	993,306	861	172.4	0.9
5/9/2017 23:00	5/10/2017 22:00	914,694	820	159.6	0.9
5/10/2017 0:00	5/10/2017 23:00	836,152	778	146.8	0.8
5/10/2017 1:00	5/11/2017 0:00	756,993	737	133.9	0.7
5/10/2017 2:00	5/11/2017 1:00	678,280	695	120.8	0.6
5/10/2017 3:00	5/11/2017 2:00	600,022	652	107.6	0.6
5/10/2017 4:00	5/11/2017 3:00	522,780	609	94.4	0.5
5/10/2017 5:00	5/11/2017 4:00	445,448	566	81.3	0.4

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: 182740/182775

The information contained below satisfies the requirements of the NSPS Subpart Ja 60.108a(c)(6).

Report:	<u>Initial</u>		
Refinery:	<u>Valero (Meraux)</u>		
Incident Type:	<u>Flaring (Flow)</u>	Date of Event:	<u>6/9/17</u>
Emissions Source(s):	<u>North Flare (EPN 20-72, EQT 0035)</u>	Date Analysis Completed:	<u>7/13/17</u>
	<u>South Flare (EPN 3-77, EQT 0049)</u>		

(1.) (60.108a(c)(6)(i))

A description of the Discharge:

On 6/9/17 at 19:09, the South Naphtha Hydrotreater (NHT) compressor tripped. The North NHT compressor was placed on line, but it also tripped. After multiple, unsuccessful attempts to restart either NHT Compressor, Valero decided to shutdown the units downstream of the NHT. This included shutting down the Reformer Net Gas Compressor. With the Net Gas Compressor shutdown, a reverse flow path was created from the Pressure Swing Adsorption (PSA) unit through the Net Gas Compressor discharge section to the fuel gas system. The fuel gas system was over pressured and relieved to the North Flare. The high pressure in the fuel gas system tripped several process heaters which upset other units in the refinery and resulted in additional flaring to the South Flare.

Later, but within the same 24 hour period, Valero attempted to restart the Reformer Net Gas Compressor. The fuel gas system was again over pressured and relieved to the North Flare. While refilling the Flare Gas Recovery (FGR) Liquid Seal, the operator inadvertently shut the valve that isolates the flare header from the FGR Compressor instead of the make up water valve. This allowed additional flaring for several hours before it was noticed and was re-opened.

(2.) (60.108a(c)(6)(ii) and (60.108a(c)(6)(ix))

Date and Time the discharge was first identified	<u>6/9/17 19:56</u>
Date/Time the discharge had ceased	<u>6/10/17 19:36</u>
Duration of Discharge (Calculated)	<u>23.7</u> hrs

(3.) (60.108a(c)(6)(viii))

The steps taken to limit the emissions during the discharge:

Valero followed its Flare Minimization Plan and Operations Procedures to minimize the volume of this discharge.

(4.) (60.108a(c)(6)(xi))

Necessity of RC/CAA: Determine and state whether a RC/CAA is necessary:

Note: If the discharge was a result of a planned startup or shutdown, a RC/CAA analysis is not required if the flare management plan was followed.

Did the discharge result from a planned startup or shutdown?	<u>No</u>	(Yes/No)
Was the flare management plan followed?	<u>Yes</u>	(Yes/No/N/A)
Is the event exempt from a RC/CCA based on the answers above?	<u>No</u>	(Yes/No)

- If yes, skip section 5-7.

(5.) (60.108a(c)(6)(ix))

Root Cause Analysis: Describe in detail the Root Cause(s) of the Incident, to the extent determinable:

Did this discharge result from root causes identified in a previous analysis? No (Yes/No)

Root Cause(s):

- 1) The South NHT Compressor tripping offline was caused by a failed limit switch that initiated an unnecessary shutdown.
- 2) The failed startup attempts on the North NHT compressor was due to the lube oil pressure not being satisfied within the set timeframe (30 secs).
- 3) Operator inadvertently shut the valve that isolates the flare header from the FGR Compressor instead of the make up water valve.

Contributing Factor(s):

- 1) The pressure control valves on the Net Gas Compressor discharge section are designed to control pressure by allowing forward flow from the Net Gas Compressor discharge to the PSA unit and the fuel gas system. The control system was not designed to prevent reverse flow from the PSA unit to the fuel gas system.

(6.)

(60.108a(c)(6)(ix))

**Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is not
Is corrective action required? Yes (Yes/No)**

- 1) *Remove the limit switches that caused the unnecessary trip.*
- 2) *Consider installing check valve to prevent reverse flow from the PSA unit to the fuel gas system.*
- 3) *Consider installing a differential pressure override to prevent reverse flow from the PSA unit to the fuel gas system.*
- 4) *Create a control scheme narrative for the Net Gas Compressor discharge section pressure control system and review with operators.*
- 5) *Revise relevant procedures related to the operation of the Net Gas Compressor and PSA unit.*
- 6) *Consider extending the delay on low lube oil permissive when starting the NHT Compressors, or consider a time delay on trip.*
- 7) *Consider adding an auxiliary lube oil pump for the NHT Compressors.*
- 8) *Add a DCS alarm that alarms and re-alarms every 30 minutes when flare header to FGR isolation valves are closed.*
- 9) *Highlight when FGR suction isolation valves are closed on the daily shift report.*

(7.)

(60.108a(c)(6)(x))

Corrective Action Schedule: Include corrective actions already completed within the first 45 days following the discharge. For those not completed, provide a schedule for implementation, including proposed commencement and completion dates.

1) *Remove the limit switches that caused the unnecessary trip.*

Commencement Date: 7/13/17

Estimated Completion Date: 10/10/17

2) *Consider installing check valve to prevent reverse flow from the PSA unit to the fuel gas system.*

Commencement Date: 7/13/17

Estimated Completion Date: 8/29/17

3) *Consider installing a differential pressure override to prevent reverse flow from the PSA unit to the fuel gas system.*

Commencement Date: 7/13/17

Estimated Completion Date: 8/15/17

4) *Create a control scheme narrative for the Net Gas Compressor discharge section pressure control system and review with operators.*

Commencement Date: 7/13/17

Estimated Completion Date: 8/29/17

5) *Revise relevant procedures related to the operation of the Net Gas Compressor and PSA unit.*

Commencement Date: 7/13/17

Estimated Completion Date: 8/29/17

6) *Consider extending the delay on low lube oil permissive when starting the NHT Compressors, or consider a time delay on trip.*

Commencement Date: 7/13/17

Estimated Completion Date: 8/29/17

7) *Consider adding an auxiliary lube oil pump for the NHT Compressors.*

Commencement Date: 7/13/17

Estimated Completion Date: 1/2/18

8) *Add a DCS alarm that alarms and re-alarms every 30 minutes when flare header to FGR isolation valves are closed.*

Commencement Date: 7/18/17

Estimated Completion Date: 8/18/17

9) *Highlight when FGR suction isolation valves are closed on the daily shift report.*

Commencement Date: 7/18/17

Estimated Completion Date: 8/18/17

(8.)

The measured or calculated cumulative quantity of gas discharged over the discharge duration.

Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	Last hour of 24-hr Period	24-hr cumulative volume of flared gas above Baseline	TRS or H2S ppm (24-hr average, flow-weighted)	24-hr cumulative SO2	24-hr cumulative reduced sulfur
		SCF	ppmv	lbs	lbs as H2S
6/8/2017 19:00	6/9/2017 18:00	0	0	0.0	0.0
6/8/2017 20:00	6/9/2017 19:00	20,093	970	77.1	0.4
6/8/2017 21:00	6/9/2017 20:00	253,208	1092	189.5	1.0
6/8/2017 22:00	6/9/2017 21:00	282,223	1267	209.6	1.1
6/8/2017 23:00	6/9/2017 22:00	282,223	1267	209.6	1.1
6/9/2017 0:00	6/9/2017 23:00	282,223	1267	209.6	1.1
6/9/2017 1:00	6/10/2017 0:00	286,787	1270	209.6	1.1
6/9/2017 2:00	6/10/2017 1:00	505,196	1271	210.5	1.1
6/9/2017 3:00	6/10/2017 2:00	791,094	1272	211.6	1.1
6/9/2017 4:00	6/10/2017 3:00	935,716	1274	212.5	1.1
6/9/2017 5:00	6/10/2017 4:00	935,716	1274	212.5	1.1
6/9/2017 6:00	6/10/2017 5:00	951,526	1291	213.6	1.1
6/9/2017 7:00	6/10/2017 6:00	951,526	1291	213.6	1.1
6/9/2017 8:00	6/10/2017 7:00	951,526	1291	213.6	1.1
6/9/2017 9:00	6/10/2017 8:00	951,526	1291	213.6	1.1
6/9/2017 10:00	6/10/2017 9:00	952,890	1310	213.7	1.1
6/9/2017 11:00	6/10/2017 10:00	952,891	2317	213.7	1.1
6/9/2017 12:00	6/10/2017 11:00	952,891	2317	213.7	1.1
6/9/2017 13:00	6/10/2017 12:00	952,891	2317	213.7	1.1
6/9/2017 14:00	6/10/2017 13:00	952,891	2317	213.7	1.1
6/9/2017 15:00	6/10/2017 14:00	1,074,297	2345	227.3	1.2
6/9/2017 16:00	6/10/2017 15:00	1,074,298	2438	227.3	1.2
6/9/2017 17:00	6/10/2017 16:00	1,076,782	2724	230.1	1.2
6/9/2017 18:00	6/10/2017 17:00	1,080,402	3139	236.0	1.3
6/9/2017 19:00	6/10/2017 18:00	1,085,103	3682	246.1	1.3
6/9/2017 20:00	6/10/2017 19:00	1,066,297	4377	177.5	1.0
6/9/2017 21:00	6/10/2017 20:00	833,182	4255	65.1	0.3
6/9/2017 22:00	6/10/2017 21:00	804,334	4146	45.1	0.2
6/9/2017 23:00	6/10/2017 22:00	805,422	4591	47.0	0.3
6/10/2017 0:00	6/10/2017 23:00	805,422	4591	47.0	0.3
6/10/2017 1:00	6/11/2017 0:00	800,859	4588	46.9	0.3
6/10/2017 2:00	6/11/2017 1:00	582,450	4587	46.0	0.2
6/10/2017 3:00	6/11/2017 2:00	296,558	4745	44.9	0.2

Subpart Ja Root Cause / Corrective Action AnalysisImpact Incident Number: **182915***The information contained below satisfies the requirements of the NSPS Subpart Ja 60.108a(c)(6).*

Report:	<u>Initial</u>	
Refinery:	<u>Valero (Meraux)</u>	
Incident Type:	<u>Flaring (Flow)</u>	Date of Event: <u>6/15/17</u>
Emissions Source(s):	<u>North Flare (EPN 20-72, EQT 0035)</u>	Date Analysis Completed: <u>7/13/17</u>

(1.) (60.108a(c)(6)(i))

A description of the Discharge:

On 6/15/17 at 17:17, the Pressure Swing Adsorption (PSA) unit tripped offline. The PSA unit has multiple adsorber vessels and the unit can normally be run in a reduced capacity mode while repairs are performed. Valero could not immediately restart the unit, even in the reduced capacity mode, and the unit was offline for approximately 4 hours while Valero performed troubleshooting and repairs. During this period, the PSA feed, a mixture of high concentrations of Hydrogen and light hydrocarbon gases, was sent to the North Flare.

(2.) (60.108a(c)(6)(ii) and (60.108a(c)(6)(ix))

Date and Time the discharge was first identified	<u>6/15/17 17:17</u>
Date/Time the discharge had ceased	<u>6/15/17 21:33</u>
Duration of Discharge (Calculated)	<u>4.3</u> hrs

(3.) (60.108a(c)(6)(viii))

The steps taken to limit the emissions during the discharge:

Valero followed its Flare Minimization Plan and Operations Procedures to minimize the volume of this discharge.

(4.) (60.108a(c)(6)(xi))

Necessity of RC/CAA: Determine and state whether a RC/CAA is necessary:

Note: If the discharge was a result of a planned startup or shutdown, a RC/CAA analysis is not required if the flare management plan was followed.

Did the discharge result from a planned startup or shutdown?	<u>No</u>	(Yes/No)
Was the flare management plan followed?	<u>Yes</u>	(Yes/No/N/A)
Is the event exempt from a RC/CCA based on the answers above?	<u>No</u>	(Yes/No)

- If yes, skip section 5-7.

(5.) (60.108a(c)(6)(ix))

Root Cause Analysis: Describe in detail the Root Cause(s) of the Incident, to the extent determinable:

Did this discharge result from root causes identified in a previous analysis? No (Yes/No)

Root Cause(s):

- 1) A valve was found to have a damaged disk due to being misaligned from an incorrect installation. (2016) This valve prevented the unit from running in the reduced capacity mode.
- 2) Another valve was found to have holes in the diaphragm of its operator, preventing the valve from operating properly. This valve caused the initial unit trip.

Contributing Factor(s):

- 1) Quality Assurance/Quality Control (QA/QC) procedures were not followed after the installation of the first valve.
- 2) Certain valves in the PSA are cycled continuously during the normal operation of the unit and are subject to wear and tear. In 2016, Valero began a preventative maintenance strategy for the periodic replacement of a portion of these valves at every unit turnaround (approximately every 2 years) as a corrective action for an incident that occurred on 10/15/2015. The first valve that was misaligned was replaced in 2016 under this program, but the 2nd valve with the holes in its diaphragm was scheduled for a later date.

(6.) (60.108a(c)(6)(ix))
Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is Is corrective action required? Yes (Yes/No)
 1) Ensure that the preventative maintenance to replace the PSA wear and tear items is included in the scope of the next unit turnaround.
 2) Validate the instrument QA/QC procedure. Audit instrument QA/QC packages for adherence to the instrument QA/QC procedure.

(7.) (60.108a(c)(6)(x))
Corrective Action Schedule: Include corrective actions already completed within the first 45 days following the discharge. For those not completed, provide a schedule for implementation, including proposed commencement and completion dates.
 1) Ensure that the preventative maintenance to replace the PSA wear and tear items is included in the scope of the next unit turnaround.
 Commencement Date: 7/13/17
 Estimated Completion Date: 7/25/17
 2) Validate the instrument QA/QC procedure. Audit instrument QA/QC packages for adherence to the instrument QA/QC procedure.
 Commencement Date: 7/13/17
 Estimated Completion Date: 10/31/17

(8.)
The measured or calculated cumulative quantity of gas discharged over the discharge duration.
 Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	Last hour of 24-hr Period	24-hr cumulative volume of flared gas above Baseline	TRS or H2S ppm (24-hr average, flow-weighted)	24-hr cumulative SO2	24-hr cumulative reduced sulfur
		SCF	ppmv	lbs	lbs as H2S
6/14/2017 17:00	6/15/2017 16:00	129,365	2000	219.8	1.2
6/14/2017 18:00	6/15/2017 17:00	768,623	2002	225.0	1.2
6/14/2017 19:00	6/15/2017 18:00	1,910,283	2002	225.2	1.2
6/14/2017 20:00	6/15/2017 19:00	2,858,067	2004	232.6	1.2
6/14/2017 21:00	6/15/2017 20:00	3,675,376	2007	241.5	1.3
6/14/2017 22:00	6/15/2017 21:00	3,734,194	2031	247.1	1.3
6/14/2017 23:00	6/15/2017 22:00	3,671,798	1608	142.7	0.8
6/15/2017 0:00	6/15/2017 23:00	3,662,181	1179	126.4	0.7
6/15/2017 1:00	6/16/2017 0:00	3,660,856	1098	126.0	0.7
6/15/2017 2:00	6/16/2017 1:00	3,660,856	1098	126.0	0.7
6/15/2017 3:00	6/16/2017 2:00	3,637,341	422	63.2	0.3
6/15/2017 4:00	6/16/2017 3:00	3,637,102	380	63.2	0.3
6/15/2017 5:00	6/16/2017 4:00	3,604,924	98	27.3	0.1
6/15/2017 6:00	6/16/2017 5:00	3,604,924	98	27.3	0.1
6/15/2017 7:00	6/16/2017 6:00	3,604,924	98	27.3	0.1
6/15/2017 8:00	6/16/2017 7:00	3,604,924	98	27.3	0.1
6/15/2017 9:00	6/16/2017 8:00	3,604,924	98	27.3	0.1
6/15/2017 10:00	6/16/2017 9:00	3,604,829	31	27.3	0.1
6/15/2017 11:00	6/16/2017 10:00	3,609,714	166	29.9	0.2
6/15/2017 12:00	6/16/2017 11:00	3,610,367	219	30.1	0.2
6/15/2017 13:00	6/16/2017 12:00	3,610,367	1040	30.1	0.2
6/15/2017 14:00	6/16/2017 13:00	3,610,367	1040	30.1	0.2
6/15/2017 15:00	6/16/2017 14:00	3,610,367	1040	30.1	0.2
6/15/2017 16:00	6/16/2017 15:00	3,610,367	1040	30.1	0.2
6/15/2017 17:00	6/16/2017 16:00	3,610,367	1040	30.1	0.2
6/15/2017 18:00	6/16/2017 17:00	2,971,109	1038	24.9	0.1
6/15/2017 19:00	6/16/2017 18:00	1,829,449	1038	24.7	0.1
6/15/2017 20:00	6/16/2017 19:00	881,664	1036	17.3	0.1
6/15/2017 21:00	6/16/2017 20:00	64,355	1033	8.4	0.0